

Panama - Pacific Dental Congress

San Francisco
California

August thirtieth to September ninth
Nineteen Fifteen



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FOREWORD

THE Panama-Pacific Dental Congress was primarily conceived as Dentistry's contribution to the celebration of the opening of the Panama Canal.

As the great water-way which now unites the Atlantic and Pacific—bringing nearer the East and West—contributes to a better understanding of men and nations engaged in travel and trade, so—it is expected—will this Congress of Dentists, representing so many countries and branches of the Science, do much to bring about a more perfect professional brotherhood, and to disseminate the results of that knowledge, experience and skill which Dental Medicine brings for the alleviation of pain and the conservation of oral health.

This book is the Official Program and Souvenir of the Congress. The arrangement of the papers and clinics will be, for obvious reasons, subject to change, and a Daily Bulletin will be issued containing the day's program.

Appreciation and thanks are expressed to Mr. Robert Newton Lynch, Mr. Frank Morton Todd, The San Francisco Chamber of Commerce, the Publicity Bureau of the Panama-Pacific Exposition, Sunset Magazine and the World Traveller De Luxe for much of the interesting data relative to San Francisco and the Exposition.

—PROGRAM COMMITTEE.

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But nothing is more estimable than a physician who, having studied nature from his youth, knows the properties of the human body, the diseases which assail it, the remedies which will benefit it, exercises his art with caution, and pays equal attention to the rich and the poor.—VOLTAIRE.



Courtesy of Sunset Magazine

The famous valley of Yosemite was discovered by soldiers pursuing marauding Indians into their mysterious stronghold amid the granite Sierra. There are still some Indians in the valley, but the soldiers greatly outnumber the natives and the stronghold is now theirs, as the motorist soon learns



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History of the Organization and Promotion of the Panama-Pacific Dental Congress

By DR. FRANK L. PLATT



ON January 10, 1910, at a meeting of the San Francisco Dental Association, a resolution was adopted, providing for the appointment of a committee to take the initial steps toward holding a dental congress, international in character, in San Francisco, during the period of the Panama-Pacific International Exposition, and appropriating the sum of one hundred dollars to meet the expenses of the committee in the discharge of its duties.

At the February meeting of the society the personnel of the committee was announced as follows:

Chairman, Dr. W. A. L. Knowles; Members, Dr. Frank L. Platt, Dr. Guy S. Millberry, Dr. James G. Sharp and Dr. Charles E. Post.

This committee met at various times during 1910 and 1911 to devise ways and means for promoting the congress and finally called a convention of delegates representing the dental societies of Oregon, Washington, Idaho, Colorado, Utah, Arizona and California, to form a representative committee of organization to promote the interests of the congress.

This convention met on March 14, 1912, adopted by-laws, and elected officers as follows: Dr. Frank L. Platt, Chairman; Dr. Arthur M. Flood, Secretary; Dr. W. A. L. Knowles, Treasurer.

It was decided that these officers, with twelve directors, constitute the officers and board of directors of the committee. Of the twelve directors, five were to be chosen from the members of the profession residing near San Francisco to facilitate securing a quorum at meetings of the committee, one from Southern California, and one from each of the Pacific Coast States represented in the convention. These directors were to be elected by the dental societies of their respective States.

Drs. H. G. Chappel, J. L. Pease, Fred G.

Baird, R. B. Giffen and A. M. Barker were elected to the directorate.

Reports of several sub-committees of the original committee were read and discussed, the membership fee was fixed at ten dollars, and it was voted that the organization incorporate in order to facilitate the transaction of business.

The delegates to the convention and the original committee of organization having performed the duties entrusted to them, passed out of official existence and the Committee of Organization of the Panama-Pacific Dental Congress assumed full control of the destinies of the organization.

At the first meeting of the Committee of Organization committees were appointed on revision of by-laws and incorporation whose reports were adopted at later meetings. On the advice of the attorney for the board, it was decided that the corporation to be formed consist of only five members rather than the whole committee of organization, that it have a distinctive title and have full control of the finances of the congress. In pursuance of this plan, the incorporation of the Pacific Dental Congress Commission of 1915 was effected with the following officers: (Dr. W. A. L. Knowles resigning as Treasurer of the Congress and declining to serve as Treasurer of the Commission); Dr. Frank L. Platt, President; Dr. Arthur M. Flood, Secretary; Dr. Fred G. Baird, Treasurer, and Dr. R. B. Giffen and Dr. Joseph Loran Pease.

The adoption of the plan of incorporation abolishing the office of Treasurer of the Committee, the office of Vice-Chairman was created in order to maintain the required number of offices and provide for emergencies and Dr. W. A. L. Knowles was elected Vice-Chairman of the Committee of Organization.

The only stock issued was one share to each member of the corporation, which, under its charter, was empowered to issue three thousand debenture bonds of the value of ten dollars each. The funds derived

from their sale are to be used to promote and finance the congress with the understanding that when the duties of the corporation are performed, its debts paid and the congress closed, any sum remaining in the treasury shall be divided pro rata among the holders of the debentures. In order to bring these matters to the attention of the profession, a mass meeting was held in San Francisco, April 29, 1912, at which time the purposes of the Committee of Organization and the Corporation were explained. At this meeting twelve memberships in the congress were taken and two thousand one hundred and thirty dollars subscribed for debentures.

At a meeting of the committee held on August 17, 1912, Dr. Frank L. Platt and Dr. A. M. Flood were appointed delegates to attend the meeting of the National Dental Association at Washington, D. C., and were instructed to invite that organization to adjourn its regular 1915 meeting to meet with the Panama-Pacific Dental Congress in San Francisco. This invitation was accepted and the congress given most substantial encouragement by the National Association. To carry out the general plan of publicity of the congress, executive committees were appointed in practically every state and country in the world, their duties being to bring the congress to the attention of their state and local societies, secure memberships and contributions to program. The dentists of the state of Colorado failing to take an active part in the organization and having elected no director, Dr. H. A. Fredrick of San Francisco was elected a Director and member of the Committee of Organization. At a meeting of the committee held in Oakland, Cal., June 4, 1913, the question of the election of permanent officers of the congress was discussed, and it was determined in view of the unpleasant circumstances at-

tending the election of officers of the Fourth International Congress held at St. Louis, Mo., that such an election be held at once. The following officers were then elected: President, Dr. Frank L. Platt, San Francisco, Cal.; Vice-President, Dr. Chas. M. Benbrook, Los Angeles, Cal.; Secretary, Dr. Arthur M. Flood, San Francisco, Cal.; Treasurer, Dr. Fred G. Baird, San Francisco, Cal.

At the meeting held on August 30, 1913, the resignation of Drs. Knowles and Barker were accepted and Dr. C. F. Jarvis of Oakland, Cal., and Dr. T. Sydney Smith, Palo Alto, Cal., were elected to succeed them, and Dr. Arthur W. Chance of Portland, Ore., was elected Vice-Chairman of the Committee of Organization. A vast amount of correspondence has been carried on by the committee in securing exhibits, memberships and program for the congress, but the results obtained seem to have justified the expense and labor involved.

The dental journals of the world have been most generous in giving their pages for the publication of data relating to the congress and have promoted its interests quite materially. Manufacturers and dealers everywhere have responded to the invitation to exhibit at the congress and given it their generous support. The officers and members of the executive committees and of the sections into which the congress is divided have labored long and earnestly to make its sessions notable, and the program of which this is a part tells the story of their success. This history from necessity is brief. It embodies but an outline of the work of the various committees of the congress but is printed in the hope that it will suffice and in the knowledge that it, unlike some histories—so far as it goes—tells the truth.

Dentistry in America

By GUY S. MILLBERRY, D. D. S.

O epitomize the facts, which as an expression of public opinion, have given America recognition as being foremost in dentistry today, requires an encyclopedic training which few dare presume to possess, and it is with much hesi-

tancy and perturbation that the writer assumes the responsibility of presenting this information in the limited allotted space. What events stand out pre-eminently as causative factors in this achievement? Who among the character builders of this nation, by their influence and ability, molded the makers of modern dental science? What institutions were the cradles of American genius? What thoughts, what ideas were responsible for our remarkable growth?

The omniscient mind, master over all things, is responsible for a national idealism, represented in the character of a people. Occasionally digressions from the usual march of progress stamp with a certain individualism the people of one nation or another, an individualism that stands out pre-eminently as a possession of its own, and America can well be proud of the digression which has led our people into a field of usefulness toward an individualism acknowledged throughout the world for its standards of efficiency. Not alone have American dentists achieved distinction in other lands, but American institutions have educated persons of foreign birth who have returned to their native lands to disseminate American ideas amongst their fellowmen.

A discussion of the importance of good dentistry or a review of the history of dentistry in America cannot be even briefly dwelt upon in presenting the facts which stand out boldly as creative influences during the last century or indicating the progress of dental science in recent years.

The Panama-Pacific International Exposition, responsible for the holding of this Congress, is intended to portray the more recent events in the progress of our nation, yet I feel it would not be too presumptuous to go back to a period well within the

last century, when Hayden and Harris conceived the idea of making dentistry a liberal profession and proposed to elevate it to a position where the appellation of "a dentist" would not be a reproach, in discussing the recent events in our progress.

The '40's stand out as an epoch-making decade in American dentistry, encompassing within that decade the organization of the first dental school, dental association and dental journal, and the application of nitrous oxide and ether in producing anesthesia, as some of the most significant things in our history. California, whose hospitality you are enjoying, dated its rebirth in this same decade with the discovery of gold in 1848.

Names do not stand for much except as they reveal character, and when character develops so as to be an inspiration for good to all who come within the sphere of its influence, it represents the highest degree of individualism. The desire on the part of Doctors Hayden and Harris to provide better educational facilities for those who desired to practice dentistry, and the character of these two men is in a very large sense responsible for our present position. Eugenics teaches us that the best traits of character and the best strains in physical development are worth cultivating and perpetuating. If we are to believe in eugenics, and recent progress in the domain of plant and animal husbandry prove its verity; if we believe in Mendelian theories with regard to hereditary strains; then the impulses and desires of Hayden and Harris were only the expression of will formed through the development of their character and that of their ancestors.

Horace H. Hayden (1768-1844) after gratifying his wanderlust by taking several sea voyages, embarking in business in the West Indies and serving as an architect's apprentice, had occasion at the age of 24 to consult John Greenwood for professional services, and becoming interested in the science, studied dentistry after the methods in vogue at that time. How many young men of today are influenced by similar relationships in adopting dentistry as a profession?

He began practice for himself in Baltimore in 1804, and in substantiating his faith in higher education he continued his studies in medicine, receiving honorary degrees from Jefferson Medical College, Philadelphia, and the University of Maryland.

His predominating opinions were that a better scientific training was necessary for the practitioner of dentistry. His ideals, to which may be added a ripe experience and mature judgment plus the enthusiasm and vigor of his younger colleague, Doctor Chapin A. Harris, were without doubt the most potent factors in creating that trinity which stands now as the distinguishing influence in American dentistry.

Doctor Harris (1806-1860), after reaching maturity, pursued the practice of medicine, surgery and dentistry in various localities in Ohio and part of the time as an itinerant dentist, making favorable impressions wherever he traveled, finally locating in Baltimore. Not the least important event in his professional career is the work he accomplished in assisting Doctor Hayden, aided by others, in establishing the first dental school in this country, the Baltimore College of Dental Surgery. This institution, incorporated February 1, 1840, with five students in attendance during the first session is the prototype of American schools which have done so much toward building character into American dentistry.

Second in the trinity is the dental journal. Transportation and the modern means of communication, aided by utilizing electrical energy, have enabled us as individuals to learn of conditions in other parts of the world in the briefest spaces of time, but the art of printing has been the greatest single factor in the dissemination of knowledge that ever existed.

The influence of Samuel W. Stockton, one of the manufacturers of porcelain teeth, who issued a monthly advertising sheet, *Stockton's Dental Intelligencer*, the prototype of our present-day trade journals, must be respected. Advertising literature of the present day, however, is a serious menace rather than possessing a value because of the erratic statements published, which are not borne out by experimental or clinical evidence.

Journals of today, so influential in the distribution of knowledge, are dependent upon trade support, as those published by manufacturing concerns, or upon member-

ship subscriptions as those fostered by dental organizations. The *American Journal of Dental Science*, first published in New York, was one of the pioneers in the field. Doctors Hayden and Harris are also credited with being responsible for the publication of the first dependable dental journal. There were about 500 copies of each number published. The expense was maintained by pledged amounts and subscriptions from about 175 dentists. This journal ran through three series, the first being under the supervision of a publishing committee and the second under the direction of Chapin A. Harris as editor and proprietor.

The *Dental News Letter* and its successor, the *Dental Cosmos*, is one of the leading dental journal of America, a position it has held for practically the full period of its existence, since October, 1847.

The new type of professional journals exemplified in the *Journal of the Allied Societies*, and later the *National Dental Journal*, symbolizes a new era in journalism in our professional growth. They are subsidized by the profession. They represent democratic rather than autocratic control, and must satisfy the will of the profession or fail in their efficacy and educational merit. They will never wholly replace trade journals for obvious reasons.

Many other journals, and among them the publications devoted to special fields as orthodontics or hygiene, are not without influence in upbuilding our standards.

Again, monographs and text-books, subsidiary factors in dental educational work, have molded dental opinion. They are largely the outgrowth of needs in dental schools where books became a necessity. The teachers were usually the authors and in many instances the teachers and authors were the editors of our journals. Fitch's "System of Dental Surgery" (three volumes) first published in 1829, and very comprehensive, was one of the earliest good American publications.

"The Principles and Practice of Dental Surgery" and Harris' "Dental Dictionary," by Chapin A. Harris, show the versatility of professional attainment that this respected man possessed.

The writer cannot refrain from mentioning Taft, Garrettson, Miller, Essig, Gorgas, Black, Broomell, Cryer, Talbot, Burchard, Angle, Kirk and Noyes as being among

the foremost authors of America, whose written word has spread the gospel of American dentistry over the globe.

The third factor in the trinity, the Dental Association, brings us again to the name of Hayden, who was chiefly instrumental in organizing the American Society of Dental Surgeons in New York, August 18, 1840. He was the first president and succeeded himself to that office until his death four years later. Although this Association did not continue permanently, owing to social disturbances, it served as the prototype of a dental society, which under the reorganization plan of the National Dental Association bids fair to equal or outnumber any dental society in the world.

Associations today represent professional opinion more than they did in our earlier history when schools were the leaders in our professional progress. Associations do much toward standardizing conditions in this country both as to laws regulating the practice of dentistry and changes in curriculum due to individual genius and professional attainment. Each of these predominating factors is of mutual benefit to the others.

Laws regulating the practice of dentistry and exercising supervision over the licentiates followed the rapid growth of dental schools. Although the first law was enacted in Alabama and approved Dec. 31, 1841, it was not until the later '60's and early '70's that they became general. It is often difficult to understand why this system of regulation has been set up in the United States, but the general feeling symbolized in the States' Rights provision in the Constitution and the creation of an impartial jury similar to the Registration Boards in the English possessions, is the fundamental cause. On the whole, the advantage is in favor of the public.

One cannot omit reference to the remarkable growth of dental manufacturing and the public demand for a sanitary environment. Cleanliness, education and activity usually beget a useful career, a successful life. The Forsyth Infirmary symbolizes these. Much credit, also, is due dental manufacturers for their efforts to supply the facilities for the rapid development of our science. During the early years, porcelain teeth and hand instruments were the essentials provided by the manufacturer for the dentist, who, ingenious and a mechanic,

isolated and with limited transportation facilities, was obliged to make many of his own instruments and supplies. The year 1844 is significant in American dental history. Aside from being the year in which Horace H. Hayden died and Horace N. Wells discovered nitrous oxide anesthesia, it marks the establishment of the S. S. White Dental Manufacturing Company by Dr. S. S. White.

To hurriedly pass on while discussing "this self-made profession," which has erected and equipped buildings, developed teachers, provided facilities for research and practice, created libraries which in their aggregate will exceed 60,000 volumes, regulated malpractice, practically abolished the apprentice system, and received but very limited amounts for endowments, to some of the conditions of today is but to span the ordinary life of a thinking individual.

Among the notable monuments to American dental science so recent as to have been discussed but yesterday, we have, typifying justice and charity to the children, the Forsyth Dental Infirmary at 140 The Fenway, Boston, Mass. No phase of the child hygiene movement has been given greater publicity than oral hygiene, and the founders of this great institution in realizing the influence of a clean, healthy mouth in general good health have established a precedent in fostering this branch of preventive medicine and conserving the health of the youth of our land, which is worthy of emulation in every large center in America. Illiteracy and indolence beget degeneracy, and both of these primary causes are frequently traceable to ill health. Architecture and equipment will exert a potent influence on the development and growth of similar and co-related educational institutions, while the provision for teaching orthodontics, so important in children's practice, will be of lasting benefit to our children of the next generation.

And lastly, the dedication of the Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania, on the one hundred and seventy-fifth birthday anniversary of the latter institution, marks a period of completeness in the recognition of the importance of thorough dental instruction, which should serve for all time as a refutation

(Continued on page 47)



1—At Texas City, Texas. 2—Camp Crockett, Galveston, Texas. 3—At Texas City, Texas. 4—Camp Crockett, Galveston, Texas. 5—Camp Crockett, Galveston Texas. 6—Camp Crockett, Galveston, Texas. Photos courtesy Drs. Mason, Rice and Torrence.



1—Dental Office, U. S. A., Alaska. 2—Transportation U. S. A. Dental Outfit by Dog Team. 3—Hotel Fairbanks, Alaska. Cost Dental Surgeon \$11.00 a day, Summer 1905. 4—One of the Dental Offices at West Point, N. Y. Photographs courtesy Dr. Carpenter.

History of U. S. Army Dental Corps

By S. D. BOAK, M. D., D. D. S., Dental Surgeon, U. S. Army, West Point, N. Y.

PRIOR to the war with Spain, there were no dental surgeons in the army, emergency work being done by certain enlisted men of the Hospital Corps who had had some dental training.

In the campaign in the Philippines in 1898, many of our men in the field had imperative need of dental treatment, to secure which they had to obtain authority to leave the front and go to Manila. This involved considerable expense and was even more objectionable on account of loss of the services of the individuals. It was discovered that in the ranks of our volunteers there were a number of dentists; and, to avoid the objections mentioned, some of these were detailed to attend exclusively to the dental needs of the commands.

In 1901, Congress authorized the creation of a corps of thirty contract dental surgeons. They held no military rank and were attached to the Medical Corps of the Army. It gave the Surgeon General power to appoint, without examination, those men who were graduates in dentistry and whose character and services were satisfactory. Five men were given contracts under this act, as a reward of merit for their pioneer work in the Philippines. In accordance with this law, sixteen were sent to the Philippines and at different times one or more were sent to Pekin, Cuba and Porto Rico. In 1907, an additional dental surgeon was appointed with station at the U. S. Military Academy.

The contract status did not prove satisfactory to the dental profession or to the members of the Dental Corps, and various attempts were made to remedy it. A bill was passed March 3, 1911, giving one commissioned grade, that of first lieutenant. This act allows one dental surgeon to each thousand of actual enlisted strength of the army, so that if the corps were filled on this basis, it would consist of ninety dental surgeons, sixty of whom could become first lieutenants, the balance remaining acting dental surgeons until a

vacancy occurred in the commissioned personnel.

At present, the corps consists of twenty-eight first lieutenant dental surgeons and forty acting dental surgeons. Of these, eleven are stationed in the Philippines, eight in Hawaii, eight on the Mexican border, one in China, and one in Panama. One is sent each summer to Alaska and two accompanied our troops to Vera Cruz. At each of the five recruiting depots a dental surgeon is stationed, his duties being to examine the mouths of all recruits, often over eighty per day, and before a recruit is sent off to a regiment, to put his mouth in such sanitary condition as time permits. As this time is limited, operations are, of necessity, of an emergency character and only fillings of cement and amalgam are used.

Many of the dental surgeons are sent on itinerants, visiting six to eight posts in as many months. Each is accompanied by an assistant, an enlisted man of the Hospital Corps. They carry with them a field outfit including a foot engine, and at each post are assigned an operating room by the post commander. Each dental surgeon does foreign service in turn.

The conditions under which most of the men of the corps have worked have been vastly different from the modern office with its strictly sanitary and up-to-date equipment. Compare the office of the dental surgeon in the tropics and on the border with your office. In the tropics the humidity is so great at times that gold foil becomes damp passing from annealer to mouth. Instruments, if not given special care, become coated with rust, and leather furnishings mould overnight. In Cuba and the Philippines frequently my only light at night consisted of a tallow candle with a galvanized-iron bucket or Standard Oil can for a reflector. In 1905, one dental surgeon traveled 7,000 miles in five months in Alaska; 500 miles was by dog team, to treat eleven men of the Signal Corps; his board cost \$11.00 per day, special army rates.

Army dentists work under all conditions and in all climates.



U. S. S. "Solace," Hospital Ship, U. S. Navy.

Development of Dental Service in the United States Navy

By EMORY A. BRYANT, D. D. S., L. L. B., M. P. L., Acting Assistant Dental Surgeon U. S. N.

THE establishment of dental service in the Navy has been accomplished by progressive stages attended with the usual caution of the executive branch in proposing, and of Congress in enacting legislation which would add another unit to the vast and constantly increasing system of governmental activities.

That dental service was a necessity had long been recognized, and efforts to procure legislation in its favor, appearing occasionally for possibly the fifty years preceding 1894, have been constantly and insistently made since that year, until legislation establishing the present dental corps was finally obtained in August, 1912. The delay in the enacting of this legislation was due to a lack of unanimity between the representations of dental organizations and those of the Navy Department, rather than to any disposition to prevent legislation.

In the early years, dentists were enlisted in the Hospital Corps for general service, having the same status as other enlisted men, and then specially detailed for dental duty at the various stations in the United States, foreign possessions, and on hospital ships. These men were graduates of dental colleges or had had special training in dentistry. This arrangement was not particularly satisfactory, but worked well as a temporary expedient, and the service obtained was fairly efficient.

The present dental corps was established by a law enacted August 22, 1912, which also specifies that after August, 1915, members of the corps who have served two or more years will be examined for promotion and if found qualified will be recommended for commissions as assistant dental surgeon, subject to appointment by the President and confirmation by the Senate. When first appointed, candidates receive the rank, pay and allowances of an assistant surgeon

of the medical corps. Twenty-eight dental surgeons comprise the present corps.

The duties of dental officers are set forth in the following instructions:

"Dental officers are by law a part of the Medical Department of the United States Navy, and are required to serve professionally the personnel of the naval service and to perform such other duties as may be prescribed by competent authority.

"The regulations provide that the professional services of dental officers shall be available only for officers and men on the active list of the Navy and Marine Corps, and such services are restricted to those measures which will most effectively and economically preserve the teeth of the personnel and insure physical fitness. The department has construed Article 2991, Navy Regulations, to apply to and include officers and men of the Naval Auxiliary Service.

"Prosthetic procedures, such as gold, bridge, or crown work, are not contemplated as a part of the work of a dental officer."

These duties and the class of work to be performed will be enlarged upon as soon as practicable. The equipment at the present time is being enlarged to meet the requirements and conditions confronted as rapidly as is consistent with the number of dental surgeons employed.

While some 60,000 men constitute the personnel of the Navy, constant discharge of men from the service and the enlistment of new recruits to take their places make a continuous flow of patients, and keep the proportion requiring services at about the same ratio. As about ninety per cent of the personnel have defective teeth or need dental treatment, it will be readily seen that the time of the dental surgeon is well occupied with even the restricted class of work now being undertaken.

With further development it is hoped that this service may be a great aid in making our Navy more efficient through the improved health of our men.



1—Guys Hospital, London. 2—Royal Dental Hospital, London. 3—College of Medical Science of Buenos Aires. The Dental College occupies an upper floor. 4—Room for Examinations and Extractions in Dental College, Buenos Aires.

Argentina

By DR. JUAN B. PATRONE

THE first dental school in Argentina was established at Buenos Aires in 1892. Prior to that time, however, the Faculty of Medicine of Buenos Aires had created as an accessory branch of its curriculum a course in the "Art of Dentistry" extending over a period of two years, and had named Mr. Juan Etchepareborda as Dental Examiner. This action of the Faculty of Medicine was brought about partly as a protection to the public from the large number of quacks who at that time were prostituting the profession here, and partly as a result of the brilliant example set by countries of North America in dental matters. Dr. Nicasio Etchepareborda was placed in charge of the school when it was first established, and to his energy and personal activity the present status of dentistry here is largely indebted. Under his able management the school has steadily advanced and is today established on a very firm basis.

In the beginning the course of study extended over a period of two years, but in 1910 the time was extended to three years, followed by a "finishing course" of three months.

The requirements for admission to the dental school include a certificate of good health and good moral character, and a bachelor's degree.

Students are required to provide themselves with all instruments needed except forceps, and to wear a white coat while operating.

All medicines and filling material are furnished by the school. Students, in general, are not allowed to choose their patients, but must accept those assigned to them by the professor in charge.

All operations by students are made under the supervision of the professor and the chief of practical work. Black's instruments are used and the Black system of cavity preparation is employed. The total number of students enrolled in 1915 is 332, of whom fifty-eight are women.

The minimum amount of operative work required of the student during his third year is as follows: Fifty extractions, thirty gold fillings, three treatments of the third grade, ten treatments of the fourth grade, two incrustations of porcelain, the manufacture and fitting of two gold crowns and two pivots, the treatment of at least one case each of gingivitis, pyorrhea, abscess with fistula, and blind abscess. For prosthetic work, the third year's requirements are six crowns, four pivots, one bridge and two pieces of burnished metal.

The faculty of the school comprises the following:

Dr. Nicasio Etchepareborda, Principal.

Dr. Rodolfo Erausquin, Professor for First Year.

Cirio Durante and F. Lafarga, Chiefs of Clinics.

Dr. León Pereyra, Professor for Second Year.

Emilio Boyé and Alberto Barui, Chiefs of Clinics.

Luis Fasanella, assistant.

Dr. Nicasio Etchepareborda, Professor for Third Year.

Cariolano Brea and Gabriel Anitua, Chiefs of Clinics.

J. Argeno Aneta, assistant.

D. Antonio Guardo, Professor of Prosthesis.

A. B. Molina and A. E. Lattauri, Chiefs of Laboratory.

F. Copola, assistant.



1—University of Otago Dental Hospital, New Zealand. 2—St. Mary's, Johannesburg. 3—The Johannesburg Hospital. 4—University College, Johannesburg. 5—The Town Hall, Johannesburg, South Africa.

Dentistry in Australia

By DR. T. E. WHITE

THE State of Queensland, comprising the northeast portion of the continent of Australia, has an area of 670,500 square miles, with a population of 637,425. Brisbane is the capital, with the last census showing 151,272 inhabitants.

The Dental Act passed in 1902 is administered by a Board consisting of five (5) dentists and two medical practitioners. The registrar is appointed by the Board, and the office has been held by Mr. T. B. Hunter, B. A., for some years.

The Board's duties in general consist of:

1. Protection of the public by the prosecution of unregistered men.
2. Setting the standard of dental education.
3. Holding of examinations.
4. Registration of practitioners.

The standard of education comprises:

1. Passing of a preliminary examination of the matriculation of the University of Queensland, or other university.
2. Registration as a student for a period of four years to a registered practitioner, including hospital practice.
3. Passing of intermediate and final examination held by the Board.

The requirements in general for admission to the register are:

1. Completion of the requirements of the Board as to local standard above mentioned.
2. Licentiate in Dental Surgery of the Royal College of Surgeons of England, Edinburgh, Glasgow or Ireland.
3. Licentiate in Dental Surgery of a university of Australia or other British dominion.
4. The degree of Dentistry of Harvard, Michigan, or Pennsylvania Universities, combined with a four years' course and matriculation examination.

The registration fee is seven guineas (£7 :7 :0).

In December, 1914, the number of registered practitioners was two hundred and eighty-five (285).

The Odontological Society of Queensland was established in 1904 and has a large and representative membership of the profession in Queensland. The subscription fee is one guinea (£1 :1 :0) per annum, and non-metropolitan members receive a copy of an Australian dental magazine without charge.

Clinics and papers are given once a month for a period of eight months each year, vacation being midsummer.

The Dental Defense Society of Queensland, Ltd., was established for the protection of ethical practitioners from blackmail and unfair prosecution. Its membership consists largely of members of the Odontological Society, and all prosecutions are watched on behalf of the profession, at the same time evincing a reasonable attitude towards the public. The annual subscription is one guinea (£1 :1 :0), but each member has a limited liability of five pounds (£5).

The Brisbane Dental Hospital provides dental service for the poor of the district, the State's children, and the State school children who are unable to obtain the services of a private practitioner. Ample opportunity is provided for the teaching of students in dentistry.

The System of Dental Inspection of Schools in Queensland. The recognition by the State of the appalling prevalence of dental caries, and the realization of its effect in the physical and mental efficiency of the children and nation, brought about the necessity of attention to the problem by a system of inspection of children in the schools in 1911. The system has these aspects: Inspection, Educational, Clinical.

Inspection and Educational. Three (3) dental inspectors are appointed and allotted to Northern, Central and Southern Districts. During the school hours, 9:30 a. m. to 4 p. m., by arrangement with the head master, each child is examined, a chart in duplicate is made, one being handed to the child for its parent and the other kept as a record. The condition of the teeth is marked and recommendation made to the parent. Instruction is

given in the correct use of the toothbrush, toothbrush drill in class held, and in the older classes elementary anatomy, physiology and hygiene taught. The inspection takes place each year.

Clinical. In the metropolitan districts very poor children are recommended by the schoolmaster to the dental hospital. In the isolated country districts where there are no dentists, the dental inspector at the conclusion of the school inspection performs general dental operations. He is provided with a full traveling outfit, and in reality holds a traveling school dental clinic.

The benefit of the inspections is shown by the increasing improvement in the state of the children's mouths, a smaller number of excuses of absence from school

through swollen faces and aching teeth. Many interesting statistics are being compiled on the comparative conditions of the teeth of the children living in the central districts, where rain (tank) water is used, and those of the inland districts, where "bore" water, artesian and sub-artesian water, is used.

The Third Australian Dental Congress was held in Brisbane during August, 1913, and was attended by 260 dentists, including distinguished practitioners from the British Isles and America.

Army Dental Corps. Eight (8) dentists are appointed in the Army Medical Reserve, seven holding the rank of lieutenant and one of captain.

Dentistry in New South Wales

By the EXECUTIVE COMMITTEE FOR NEW SOUTH WALES

The first notable landmark of the profession in the State of New South Wales was the passing of the Dental Act in 1900. This was followed at once by the establishment of a dental school and hospital by the University of Sydney. The degree given to students who fulfilled the requirements of the course of study (at first three years) was L. D. S. (Licentiate in Dental Surgery).

After a time, the Senate amended the regulations and lengthened the course to four years and granted a degree of Bachelor in Dental Surgery (B. D. S.), at the same time raising the entrance examination to the standard required for the medical course. This degree is recognized and is registrable in Great Britain.

About 100 graduates have completed this course since the foundation of the school.

There has also been a large number of students privately trained, who have qualified by examination at the hands of the Dental Board. As, however, the regulations providing for this course for registration are now practically the same as the university regulations, it is supposed that in future all students will be university graduates.

The United Dental Hospital of Sydney,

formed by the consolidation of two formerly existing hospitals, is now housed in a fine, up-to-date building, erected by the Government and handed over to the committee for the purposes of hospital and dental school. A new constitution has recently been conferred upon this institution with ample funds from the State Government, and a new department providing a "free clinic for public school children" has been added to the institution. The clinic is of a most useful kind and provides an educational stimulus to our State school children in dental matters and the care of the teeth.

The future of dentistry appears to be assured, as the State Government is now about to provide funds for the foundation of a chair in dentistry in the university, which will prove of inestimable benefit to the profession of the State.

Defense. The Dental Board have been directing the attention of the Defense Department to the necessity for proper care of the teeth of our troops and, ably assisted by the members of the great dental societies and the Committee of the Dental Hospital, have carried on dental services at the hospital for the soldiers.

The Minister of Defense of the Com-

(Continued on page 47)



1—U. S. Army Dental Office, Camp Keithley, Mindanao, P. I. 2—U. S. Army Dental Office, Jolo, Philippines. 3—Field Hospital No. 3, U. S. Army, Vera Cruz, Mexico. X Dental Office. 4—U. S. Army Dental Office, Jolo, Philippines. Photographs courtesy Drs. Voorhies, Waddell and Mason.



1—Technisches Laboratorium. 2—Operations Raum. 3—Plombier-Saal. University of Wien, Vienna, Austria.

Dentistry in Austria-Hungary

By PROF. DR. RUDOLPH WEISER

IN Austria-Hungary, dentistry has always been regarded as a specialty of medicine. In 1830, Dr. G. Carabelli was appointed instructor in dentistry at the University of Vienna, and one of his pupils, Dr. M. Heider, appointed instructor in 1843, was made professor of dental science in 1859.

Legal dental practice in Austria-Hungary is limited to those who possess the university diploma of a "Medicinæ Universæ Doctor" of the empire.* There are no private universities or private dental institutes in Austria.

To obtain the degree of "Medicinæ Universæ Doctor," the candidate must have passed the final examination (Maturium) of an Austrian gymnasium (grammar school), then spend at least five years at an Austrian university and pass the different (about thirteen) examinations of three Rigorosa. Upon receiving his degree of "Medicinæ Universæ Doctor," it is optional with him to immediately commence practice or to pursue special studies for a further period of time. He has the right to practice general medicine as well as any specialty, like surgery, obstetrics, aural surgery, ophthalmology, etc., or to treat skin disease or to practice dentistry or any other branch of medicine. Instruction in dental science is obligatory upon all medical students.

The dental institutes of Austria-Hungary belong to and are a part of the universities, and are designated Dental University Institute (or Dental University Ambulatorium) of Wien, Prag, Innsbruck, Graz, Lemberg, Krakau, respectively; Stomatological Clinics of the University of Budapest and of Klausenburg. Some of them are arranged like a hospital with special clinic room provided with beds for patients under surgical treatment, that cannot be carried on conveniently or instructively at

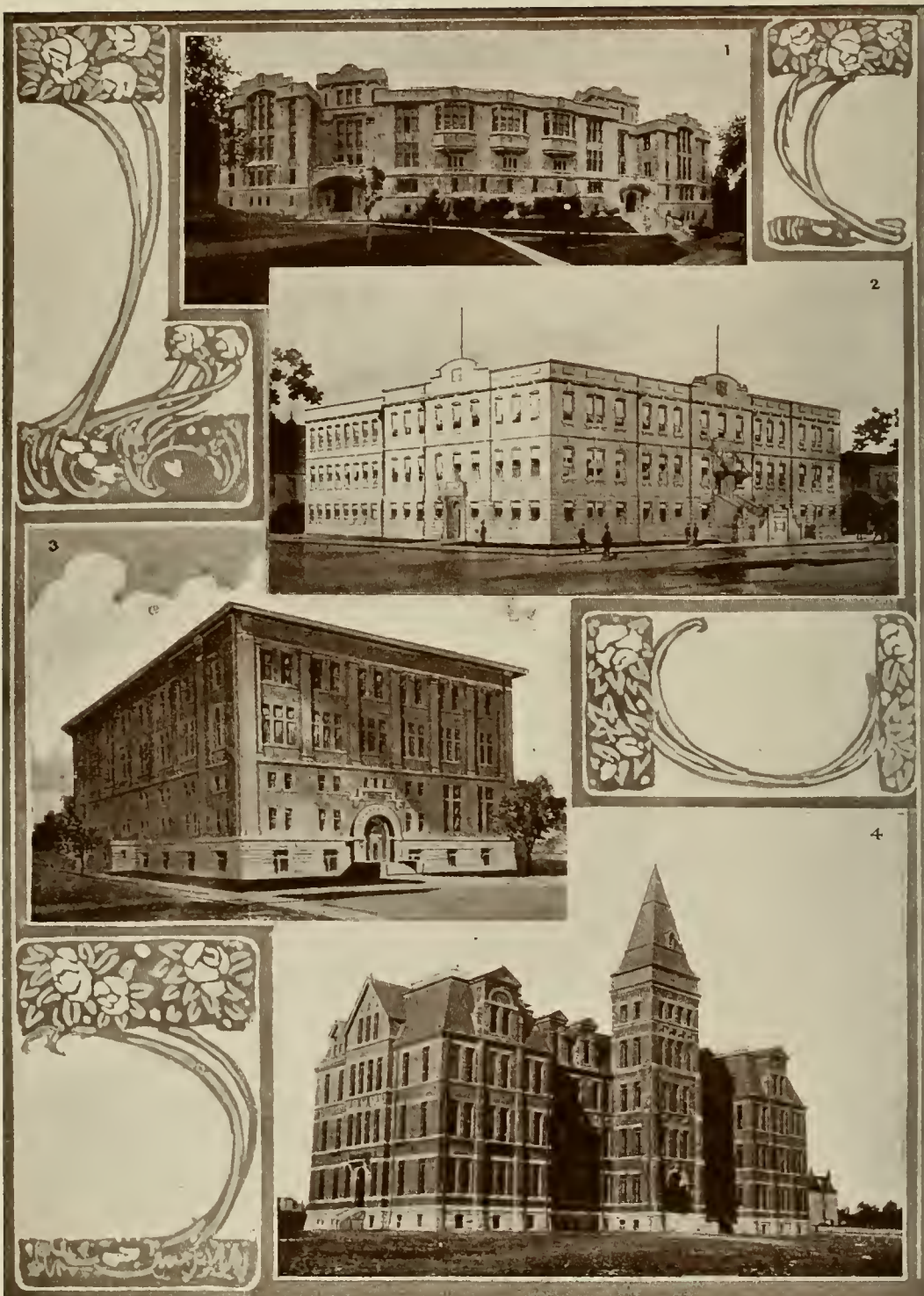
the general surgical clinic. The descriptions and photographs of the new Austrian dental institutes you will find in the following issues of the "Oesterreichisch-Ungarischen Vierteljahresschrift für Zahnheilkunde": Wien, July, 1915; Lemberg, April, 1914; Graz, January, 1913; Innsbruck, January, 1912, and Budapest, April 1909.

Prosthetic dentistry (Zahnersatzkunde) is made by law "an integral part of dental science" and every physician is required to do all the technical mechanical work necessary for his patients, without depending on the trade law like the prosthetic dentist (Zahntechniker or mechanic dentists) in France. But the profession of technical dentistry (Zahntechnik) depends on the trade law and comprises the professional manufacturing and inserting of artificial teeth (plates, crowns and bridges). The prosthetic dentist has only the right "to take impressions and to try to adapt the prosthetic works, manufactured by him, to the mouth, which must be in an absolutely healthy condition. But he is not allowed to do any work in a diseased mouth or to perform, even in a healthy mouth, anything which may change the condition of its structures, for instance, "to pinch or grind off part of teeth or roots, to clean or fill the teeth, or to extract roots or teeth."

There are at present in Austria-Hungary twelve dental societies and the big Central Association of Austrian Stomatologists, uniting the society members. One of the aims of the organized Austrian dentists is to limit dental practice, and the title of "Zahnarzt" (dentist) to those medical graduates who have had two years of continuous training in operative and technical dentistry at a university.

*There are a few cases (in Wien and some more in Budapest) where many years ago mechanical-dentists were permitted (by favor of the Crown) to practice dentistry; since 1899 this permission has not been granted.

† Wien, I. Petersplatz 7.



1—Faculty of Medicine, McGill University, Department of Dentistry, Montreal, Quebec. 2—Université Laval de Montréal, Ecole de Chirurgie Dentaire. 3—Building of the Royal College of Dental Surgeons of Ontario, Toronto. 4—Dalhousie University, Dental and Medical Schools, Halifax, N. S.

Canadian Dentistry

By DR. A. E. WEBSTER

HILE dentistry in Canada partakes very largely of the methods of education, practice and administration of its good neighbors to the south, it has some marked characteristics of its forebears, the French and the English.

Out of a union of three sources mentioned is rapidly developing a Canadian dentistry having distinct characteristics. In methods of technique and office management, the Canadian dentist cannot be distinguished from his American confrere, but in education there is much of the British method followed. The preceptor method of instruction followed in Great Britain prevailed longer in Canada than in the United States, and is still in vogue in some of the Provinces where dental schools do not exist. There is more reliance placed on the early education of the dental student and the time spent in study than upon a quick acquirement of technical procedures. The French have influenced dental education in artistic and professional aspects.

In dental laws and administration Canada holds a unique position. The first dental law in existence was passed by the Legislature of Ontario. This action was closely followed first by New York and then by Quebec. The profession in each Province has an independent dental law controlled by the profession, though in one or two provinces the Legislature appoints a part of the members of the Board. Each Board has full control of the standards of preliminary education, professional education, and professional conduct after admission to practice. The Boards have power to give those admitted to practice the title of L. D. S. A license from the Board of one Province does not authorize the holder to practice in any other Province.

The Dominion Dental Council formed by an appointee from each Provincial Board holds an examination each year for candidates who wish to obtain a certificate which permits the holder to practice in any Province in the Dominion. There is also provision in the by-laws of this Council

allowing those of certain professional standards which were obtained before the Council was organized to transfer from one Province to another.

There are four dental colleges, three of them departments of regularly organized universities and one owned and controlled by the profession of Ontario. These are the Maritime Dental College, at Halifax, the dental department of Dalhousie University; Laval Dental College, a department of Laval University, Montreal, Que.; the dental department of McGill University, Montreal; and the Royal College of Dental Surgeons of Ontario, Toronto. The Provincial universities of the western Provinces have made provision for dental departments, but have not yet organized a teaching staff.

There are two kinds of dental societies in Canada, official and voluntary. Official societies are those organized under the provisions of a legislative act and which govern the profession of the Province; all others are voluntary. The Canadian Dental Association, the national society, holds its meetings every second year.

The public and the Government of Canada are alive to the value of dental services. The Boards of Health of some of the Provinces have dentists acting upon them. Instruction of the public in oral hygiene is officially provided for in all the Provinces. Dental inspection and treatment of school children are officially carried out in all the large centers and in some of the rural districts.

The Government of Canada has given to dentistry greater official recognition than has, perhaps, any other country. Within a few months an Army Dental Service has been organized upon the same basis and with the same rank as that of any other service in the army. The organization and management are separate from the medical or any other service. It is thus placed upon a par socially, officially, and as a value to the public, with all other professions or services under the Government. Dentistry today stands high in the esteem of the people of Canada.



1—Catedral de Bogotá. 2—Escuela de Medicina. Farmacia y Dentisteria de la República del Salvador, C. A. 3—Banco de Colombia en Bogotá, establecido en 1875. 4—Capitolio Nacional y Plaza de Bolívar, Bogotá, Colombia.

History of Dentistry in Chile

By DR. ALEXANDER MANHOOD

BEFORE 1860 there were no representatives of the profession in Chile, but since then Drs. Robinson, Demorest, Saxton and others, all North American dentists, have arrived.

In 1888, President Balmaceda organized the Dental School, under the Faculty of Medicine. Its beginning was very modest, having only two professors, Nemecio Dávila, dentist, and Roberto Barahona, physician; and for equipment, six dental chairs and a dozen forceps. It was situated in a hall in the St. Vincent Hospital.

In 1896, the dean of the Faculty of Medicine, Dr. Carvallo Elizalde, obtained from the Government an order appointing Dr. Jerman Valenzuela commissioner to study dental organization and progress in Europe and the United States.

In 1908, Dr. Valenzuela, then director of the Dental School, had the good fortune, by his own particular investigations, to discover by dental examination a clue to a crime committed by the Chancellor of the German Legation, who defrauded his charge, murdered the porter, set fire to the building and then disappeared, but was finally captured, tried and sentenced. This event deeply impressed public opinion both in Chile and abroad, by showing the importance of dental science. It also induced President Montt to favor dental advancement by having constructed a special building for dental purposes equipped with all modern appliances. There are ninety-five pump chairs, complete with brackets and fountain spittoons, laboratories for X-ray, bacteriology, orthodontia, gold casting, ceramics, plate, and crown and bridge work.

The school gives a three years' course, with terms of eight months each, after which the students are examined, and if found proficient, are allowed to take their final examinations before the State Board.

The professors are the following:

Dr. Valenzuela, Dr. Luis Vargas, Dr. Luis Plaza, Dr. Jorge Villaseca, Dr. Arthur Sierra, Dr. Guillermo Velasco, Dr. Aurelio Iglesias, Dr. Luis Lagos, Dr. Elias Escala,

Dr. Alberto Concha, Dr. Efraín Jaña, Dr. Rómulo Lavín, Dr. Carlos Mujica, Dr. Tomás Allende, Dr. Salvador Castillo, Dr. Oscar Silve, Dr. Rafael Toro, Dr. Roberto Briebe, Dr. Alexander Manhood, Dr. Herman Fleischmann, Dr. Alfonso Leng, Dr. Francisco Jenschke, Dr. Exequiel Gonzalez, Dr. Roberto Barahona, Dr. Julio Paredes, Dr. Osvaldo Salas, Dr. Tomás Quevedo, Dr. Sara Rosas S.

It is the only dental school in the country, and as in all Chilean Government schools there is no fee charged for instruction. In order to matriculate, all the candidate needs is to present a certificate of having finished successfully a high school training (Bachillerato).

There are two dental societies and a journal devoted exclusively to the interests of the profession. The Odontological Society was organized in May of 1908, in Santiago, by the enthusiastic co-operation of Drs. Bolton, Cabrera, Luis de la Barra and Manhood, who addressed the other fourteen colleagues present, stating that the meeting had been called to exchange ideas about the formation of a society to further dental interests. The society meets regularly once a month and holds clinics on the 10th, 11th and 12th of September, the anniversary of the foundation of the new school. At the same time there is an exhibit of dental instruments, in which German firms are always represented. The society is composed of eighty members, but on clinic days over two hundred dentists attend. The official organ is the *Revista Dental*. The directors are: Pedro Díaz, Luis Azocar, Luis Lagos, José Cabrera, Alfredo Betteley, Eduardo Manns, Edwin Perrett, Charles Bolton, Arthur Sierra, Pedro Labarca, and Vicente del Real.

The Odontological Society of Valparaíso was organized in 1913 by Drs. Luis Raveau, Eduardo Cumming, Jorge Murúa, Ernesto Eisle; directors: Teodoro Jandin Moller, Aurelio Pickering, Alfonso Kreft and Julio Liñan. There are twenty-eight members.

In the whole of Chile there are about three hundred practicing dentists.



1—The Dental School, Southern View, Santiago, Chile. 3—Operative room, Institute Odontologic, Faculty of Medicine, Rio de Janeiro.

For translation of (2) see page 35.

The Dental Profession in Colombia

By DR. ALBERTO PATIÑO

THE Republic of Colombia is situated on the north-east of South America, just across the Caribbean Sea and the Gulf of Mexico from the United States, and it has coasts on both oceans. The shortest distance between it and the United States is not as far as from Chicago to New York. From this city to the Colombian ports on the Atlantic is less than 1,900 miles, and the trip can be made in five days.

Colombia is larger than all the Atlantic States with West Virginia and Ohio added, and, notwithstanding it is almost on the equator, as a great part of the land is high above the sea, there are found all the climates, and consequently the productions, of the three zones. The population is about 6,000,000. Bogota, the capital, is a fine city of 150,000 inhabitants, built upon a plateau of the Andes, and it has ever been celebrated for the refinement and high culture of its people.

In regard to the dental profession, Colombia holds the first place, together with Brazil, Chile and Argentine. The first dental college opened in Bogota in 1888.

Later, there was established another college in Cartagena, and yet another in Bogota in 1912. The curriculum approved by the Minister of Public Instruction for these institutions comprises the following courses, distributed during a three years' term: Physics, chemistry, metallurgy, histology, bacteriology, anatomy, dental pathology, physiology and hygiene, materia medica and therapeutics, operative and prosthetic dentistry.

There are at present two dental societies in Bogota and three monthly reviews are published, among which the oldest and best known in and out of the country is *La Odontologia Colombiana*.

Dental hygiene is attracting more and more attention every day, especially among the refined classes, and great importance has been paid to the care of children's teeth. The reason for this is brought about mainly by publications, conferences and the diffusion of hygiene rules by the profession. The "Cartilla de Higiene Bucal," by Dr. Jorge Cajiao Candia, of which the Government ordered a large edition, has been distributed among the children of public schools, and Dr. Tamayo's booklet on the care of the teeth has visited almost every home in the country.

2—The legal medical study of dentistry made by the director of the Dental School, Dr. Jerman Valenzuela Basterrica, demonstrated in a famous criminal process the identity of the person entombed. (Triple crime committed in the German Legation, February, 1909.) Had been buried as the body of Beckert, and the murder attributed to Tapia. The body was that of Tapia, the victim; therefore Beckert was the assassin. This act having affected public opinion greatly, and having international associations, the Government of the President Don Pedro Mont decided to have an efficacious protection in the teaching of dentistry, and the construction of a building for its school.



1—"La Fuerza," Havana, Cuba, built about 1515. This fort is the oldest building in Havana, and contains the National Public Library. 2—Official Conference Hall, Dental Institute, Guatemala. 3—Dental Institute, Guatemala. 4—The Palace is the residence of the President of Cuba, formerly the residence of the Spanish Captain Generals and of the American Governors.

Brief History of Dentistry in Cuba

By DR. ANDRÉS G. WEBER

THE history of the evolution of the dental profession in the Republic of Cuba moves on lines similar to those representing the progress of our profession in the United States. The founders of dentistry here came from Europe, and hence the European schools held the dominating influence up to the middle of the last century; afterwards, our students taking advantage of the facilities and proximity of the American colleges, brought here the practical and scientific knowledge of those independent schools. The first dental colleges in Cuba were established just prior to 1880; several flourished in the city of Havana, but being private institutions, they ceased to exist in the year 1899, when the Dental School of the University of Havana was established. This university is an official Government institution. The course of instruction extends over a period of three years and is equal to that of similar American institutions.

The practice of dentistry here has always been regulated by law. An applicant for a license to practice must be either a graduate of the National University or of some foreign standard school; the latter, however, must pass a satisfactory examination before the board of the university, corresponding to the State Board of Examiners in the United States.

The social aspect of dentistry commenced in 1879, when the first society, the Odontological Society of Havana, was founded. It has published, since the year of its foundation, the official organ, *Annals of the Odontological Society of Havana*, a monthly publication. The society and its periodical existed continuously for seventeen years, and during that time did much for the cause of dentistry. In 1895 the society disbanded and the publication was sus-

pended owing to conditions incident to the war for independence.

During those days, several periodicals came into existence, and, although of short life, were of material benefit to the profession.

The present society, the Havana Dental Society, practically the continuation of the old Odontological Society, was established in 1900 and publishes a monthly, *Annals of the Havana Dental Society*. Under the auspices of the society, the First Cuban Odontological Congress was organized and held a meeting in 1912 in this city, with a large attendance. One of the popular educational features was the distribution of over a thousand books and toys, which were given as prizes for clean teeth to children of the poor, and of the public schools. Thousands of children were inspected by a committee appointed from the membership of the society, and a pamphlet on "The Hygiene of the Mouth and Teeth in Children," issued by authority of the Congress, was freely distributed. We have had odontological sections in five medical congresses, viz.: the Regional Medical Congress, 1890; the Third Pan-American Medical Congress, 1901; the First National Medical Congress, 1905; the Second, 1911, and the Third in 1914. In Santiago de Cuba, the Oriental Dental Society has been in existence for nearly a decade. The present periodical literature comprises, apart from the already mentioned *Annals*, the *Revista Dental*, a monthly publication of wide circulation. In regard to professional literature, it is interesting to state that the first book published was printed in Havana in 1830.

The inspection of the teeth of the children in the public schools has long been established, and municipal dental dispensaries for the poor are in existence. The Army Dental Corps has also done much good work. The public institutions—maternity, orphan, poor children, old people, insane, etc.—are professionally attended to.



1—Dental School, Copenhagen. 2—Dental School, Copenhagen. 3—Dental Institute of the State University, Utrecht.

The Dental Profession in Denmark

By DR. CHR. HOLST

DENMARK, with a population of 2,757,000, has 440 dental practitioners.

The Medical Department, arranged under the Ministry of Justice, is represented by the Committee of Health, with the Counsellor of State, Dr.

Hoff, as president. On the Committee of Health, the dental profession is represented by Professor C. Christensen, a prominent dentist.

The dental organizations consist of a Capital Association, "Dansk Tandlozeforening" (Danish Association of Dentists), of which Dr. Kiersgaard, of Copenhagen, is president, and eight local associations. These local associations elect representatives to the Capital Association on the basis of membership. These representatives, together with the Capital Committee, decide all questions concerning dentistry in general, while local questions are decided within the local association.

Publications. *Tandlozebladet* (*The Paper of Dentists*), a weekly publication, whose editor is elected from the "Dansk Tandlozeforening" and who receives a salary for this service, is at present in charge of Dr. Baltzer Andersen, of Copenhagen. C. Ash & Sons, of Copenhagen, also issue a monthly publication.

In the *Institute of State* for treatment of oral diseases, a department for the prosthetic treatment of cleft-palate patients is, at present, in charge of Docent W. Block.

Members of the profession find appointment at the military garrisons in all the principal towns.

Dental school clinics are established in several towns in the country, as municipal institutions, and under the stimulus of "The Association for the Care of Children's Teeth" there is manifest a vital interest in the subject as regards indigent school children.

A *School for Dentists*, founded in 1888 by the State, now consists, in accordance with a royal edict, of four clinical divisions, viz.:

1. A department of diseases of the mouth and teeth.

2. A department for the filling of teeth.

3. One for general prosthesis.

4. One for crown and bridge, prosthesis of the jaws and regulation of teeth, besides a Roentgen laboratory and a chemical laboratory.

The school employs ten teachers (Docenters), who constitute a council of teachers. They elect a president from among themselves. The president acts as a director.

The teaching staff consists of the following:

1. Dr. Med. C. C. Hansen, director and teacher of anatomy.

2. Dr. Med. Max Melchior, chief physician, teacher of special surgery and leader of the surgical clinic.

3. Docent Chr. Holst, teacher of operative dentistry and leader of the operative clinic.

4. Docent W. Block, teacher of prosthetic dentistry and leader of the prosthetic clinic.

5. Docent Hallander, teacher of crown and bridge work, and leader of the clinic in this subject.

6. Dr. Med. Boock, teacher of pharmacology and professor at the university.

7. Bjorn Andersen, Cand. May. Scient., teacher of chemistry and leader of chemical trainings.

8. Dr. Med. Jorgen Jensen, teacher of general surgery.

9. Dr. Phil. Chr. Krogh, teacher of physiology.

10. Docent Budtz Jorgensen, teacher of propedentics.

The course of instruction extends over a period of three years, and the school will accommodate thirty-five students a year. The requirements for admission to the dental school are: A diploma from a high school teaching three languages, including Latin, or passing a satisfactory examination in these subjects.

To get *jus practicandi* after passing these examinations, one must give evidence of having served two years as assistant to a legal practitioner.



1—The Thomas W. Evans Museum and Dental Institute, Philadelphia, Pa. 2—The Baltimore College of Dental Surgery, 1839. 3—Operating Room, The Forsyth Dental Infirmary for Children. 4—The Forsyth Dental Infirmary for Children, Boston, Mass.

England

By DR. W. B. PATTERSON, London.

ENTISTRY in England, as practiced by the qualified dentists of the country, requires a course of study extending over a period of four years. The tendency in England at the present day is for dental students to attend those large general hospitals in the chief cities which possess a special dental department, or which have a special dental hospital associated with and in close proximity to them. At no dental hospital is the teaching of all the subjects of the dental curriculum done under one roof. Before a student can enter a hospital and commence his professional studies, it is necessary for him to pass a preliminary examination in the subjects of a general education, such as English grammar and composition, simple mathematics and Latin, and one optional subject, either a modern language or easy Greek. Many similar preliminary educational examinations of foreign colleges and universities are accepted in lieu of this examination.

The common or ordinary requirement for the practice of dentistry is a license issued by one of the Royal Colleges of Surgeons in England, Scotland or Ireland. The subjects for study and the examinations for this license are practically the same in all three countries. Exemptions are granted to students trained abroad.

The institutions granting dental degrees are the Royal Colleges of Surgeons, located at London, Edinburgh, Dublin and Glasgow, which give the degree of L. D. S. (Licentiate in Dental Surgery), and the various universities, which confer the additional degrees of B. D. S. and M. D. S. (Bachelor's and Master's degrees).

The first two years of a dental course are occupied chiefly with dental mechanics, which may be taken either in the laboratory of a dental hospital or in that of a private dentist; the next two years, however, must be spent at some dental institution.

Of the state of dentistry in England it is less easy to speak. The need for dentistry is great, and increasingly so. The Euro-

pean war is influencing dentistry in various ways. There are fewer students in training. There is less money to be spent upon dentistry, either by private individuals or by the State. School dental clinics, which were spreading throughout the country, are for the moment somewhat checked in their progress. The public conscience, which, thanks to the medical profession, was gradually realizing the dangers of dental caries and oral sepsis, is for the moment, owing to the war, apathetic towards dentistry as a part of national State hygiene.

But the most serious factor in the situation is perhaps the state of dental profession itself. The profession may be divided into two parts. The smaller part consists of all the qualified dentists who have passed an examination after a training at a dental school. The larger part consists of men who have never received such training and who have not passed an examination indicating ability to practice dentistry of any kind. This latter class devotes its attention chiefly to that most remunerative form of dentistry in this country, known as *artificial dentures in vulcanite work*. Most of the members of this class have at some early period of their career been engaged as mechanics in the laboratories of dental practitioners, before setting up in dental practice for themselves, consequently they possess to some extent a working knowledge of mechanical dentistry.

The law of England, by a curious anomaly, does not expressly forbid such practice, although it stringently prohibits the use of the title "*Dentist*" or "*Dental Surgeon*" by such unqualified practitioners.

The result is that an unsatisfactory state of the dental profession is in existence, which acts as a powerful deterrent to young men of education and honorable intentions entering dental schools and passing examinations in the subjects of dentistry.

The British public, it should be mentioned, is misled not only by the many and various specious devices in the use of titles which the wit of man is able to invent to circumvent the law, but it is misled by the



1—Incorporated Dental Hospital of Ireland, Dublin. 2—The Weir Hall, Incorporated Dental Hospital of Ireland, Dublin. 3—Operating Room, Dental College, Helsingfors, Finland.

wording of the law itself; and, furthermore, in a vast number of cases it is misled by the suggestion that true economy is practiced in parting with the natural denture and substituting that produced by art.

The General Council of Medical Education of Great Britain and Ireland, the British Medical Association, and the British

Dental Association are all engaged with the Legislature in an honorable attempt to amend the present state of the law, but the war is at the moment paralyzing their efforts. At the conclusion of the war, it is to be hoped that a brighter future may be in store for the dental schools and for dentistry in connection with the public health.

Ireland

By A. W. W. BAKER, Esq., L. D. S., I. M. D., F. R. C. S. I.

Photographs taken by Mrs. A. W. W. Baker.

The University of Dublin (Trinity College) evinced her interest in dentistry some years ago by constituting as optional subjects for the degree of M. Ch. (Master of Surgery), "surgery in one of its recognized branches, viz.: ophthalmic and aural; gynaecological; dental." The importance of this decision to our profession can scarcely be overrated.

Since then the University has established a school of dental science, and lectures are given by the university professors and lectures in anatomy, chemistry, surgery, natural philosophy, physiology, pathology, dental surgery and pathology, dental mechanics, orthodontia and anesthetics. The university grants the degrees of Bachelor and Master in Dental Science. Either of these qualifications entitles the holder to be registered as a licensed dental practitioner. In order to obtain the degree of Bachelor (B. Dent. Sc.), candidates must have completed the course for the Arts degree (B. A.) of the university and have spent

at least four years in the school of dentistry. The degree of Master in Dental Science (M. Dent. Sc.) is awarded after a further examination and cannot be taken until the end of a fifth year of study.

The Royal College of Surgeons in Ireland was the first licensing corporation in Dublin to grant a diploma in dentistry, which dates back to nearly forty years ago. The diploma granted to successful candidates is License in Dental Surgery (L. D. S. I.), Ireland being added to distinguish the diploma from those of the other Royal Colleges. The courses of study prescribed for students and the regulations for their examination are essentially the same as in the other Royal Colleges elsewhere in the United Kingdom.

University College, a constituent college of the National University of Ireland, also grants degrees in dentistry (Bachelor and Master of Dental Surgery), the conditions for which do not materially differ from those prescribed by the other licensing bodies.





1—Helsingfors, Finland. 2—Statue of Alexander Helsingfors, Finland. 3—Monument to Victor Emanuel II at Rome, Italy. 4—University at Helsingfors, Finland.

The Dentist's Work in Finland

By THE COMMITTEE FOR FINLAND

THE Grand Duchy of Finland, which, since the year 1809, has been united to the Empire of Russia, has about three and one-quarter million inhabitants.

As in many other States, dentistry in Finland is of a relatively late date. The first graduate dentists who practiced in the country were Germans and Swedes.

The question of organizing the dental work in Finland was first suggested to the body of physicians of the country in 1883 by some interested dentists. Proposals were made in 1885 and 1887, but not until 1891 did the Imperial ordinance emanate "Concerning the Organization of the Instruction in Dentistry in Finland." In consequence, there was established, in Helsingfors, the capital of the country, a *Dentists' Hospital*, subordinate to the Faculty of Medicine of the Imperial Alexander University of Helsingfors.

This hospital, being at first only a section of the "Polyclinique" of the Surgical Hospital of Helsingfors, has since developed into one of the greatest and most modern odontologic establishments in the Scandinavian countries.

The instruction at this establishment is now imparted by two masters, one of whom has charge of the preservative treatment of teeth, and mouth surgery, while the other is in charge of prothesology and the regulation of teeth. Two ordinary assistants are, besides, engaged in carrying on the work.

At the present moment, about fifty students are enrolled at this school.

Any one who has passed the dentists' examination at the University of Finland is entitled to practice dentistry in this country, as are also legalized Finnish physicians and dentists who have passed examinations in Russia.

The examination subjects required for future dentists in Finland are:

1. *Medical preliminary examination* in chemistry, physics, zoology and botany (at least one and a half years' course).

2. *Dentist-candidate examination*, in anatomy, physiology and *materia medica*, and a practical course in bacteriology (at least one and a half years' course).

3. *Dentist's examination*, which, after at least three terms' service at the Odontologie Establishment of the University and two months' attendance at the Syphilidologie Clinique, shall consist of an examination by the two masters at the Odontologie Establishment and by the professor of Surgical "Clinique" (at least a two years' course).

A great many of the dentists of Finland have passed their final examination abroad (in Germany, Sweden or Norway) and have, after this examination, been allowed to practice in this country; but since January 1, 1910, all dentist candidates, without exception, are obliged to undergo the above-named examinations, in order to gain *venia practicandi*.

At the present moment, ninety-eight Finnish dentists are entitled to practice in this country. Of these, seven are, besides, completely educated and trained physicians.

In order to promote their profession, the dentists of Finland have united to form a society, the Finnish Dentists' Society, founded April 16, 1892. The society, whose transactions are now published in two volumes a year, consisted, at the end of 1914, of eighty-three members, besides honorary and corresponding members. Among the last named, the society has the honor of enrolling also some eminent American dentists.

The position of odontology in Finland as an independent branch of medicine received a universal acknowledgment in 1903, at the meeting of Northern Naturalists and Physicians in Helsingfors, where odontology was for the first time represented by a section of its own.

The most of the dentists of Finland have gone abroad for study, after completing the prescribed course at Helsingfors. A majority belong to the *Federation Dentaire Internationale*, and one of the Finnish den-

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Synopsis of the Evolution of Dentistry in France

By DR. CH. GODON

WE know that the French dental art shone with its utmost splendor during the eighteenth century. The truly scientific time of its evolution begins with Pierre Fauchard, author of the first manual of dental surgery, published in 1728; and, until the beginning of the nineteenth century, the French dentists enjoyed the greatest reputation for their skill; but they seem to have lost that skillfulness after the beginning of the nineteenth century. Consequently the dentists started an important professional movement in France, about 1879, to raise their profession to its former standard. This movement led to the establishing of the first dental school in France, known as "L'Ecole Dentaire de Paris," or "The Dental School of Paris." This movement gave birth at first to a society called "Le Cercle des Dentistes de Paris," or "The Dentists' Club of Paris," which became, a few years later, "L'Association Générale Syndicale des Dentistes de France," or "The General Syndicated Association of the Dentists of France." The aim sought by this club was both to defend the professional interests of its members and to reform the dental technics and its practice in France. Its first care was to establish a school in which should be taught methodically and scientifically the science of dentistry, which at that time was taught in France only through individual apprenticeship. The Dental School of Paris, established in 1880, had a two-fold aim: First, to teach to students through theory and practice the odontologic science, and second, to establish a dental dispensary for the indigent. Its founders modeled their own school after the dental colleges of the United States,

whose curriculum they took and adapted to the needs of the dental profession in France.

The progress made by the School of Dentistry of Paris in the recruiting and in the forming of a body of competent dentists, the creation of a scientific society, "Société d'Odontologie de Paris," or the "Odontologic Society of Paris," and of a monthly review called *L'Odontologie*, or *The Odontology*, caused the establishment four years later, in 1884, of a similar school, called "The Odontotechnic School," and caused the French Government to recognize these schools and to enact laws for the regulation of the academic studies pursued in the dental schools of France. Such was in part the aim both of the law passed on the 30th of November, 1892, with regard to dental medicine, and of the completing decrees or laws of the 25th of July, 1893, and of the 31st of December, 1894, which created an obligatory State diploma for the surgeon dentist, and made unlawful the practice of dentistry without a physician's or a dentist's State diploma. These laws fixed also the period of odontologic study at three years and also prescribed that three examinations be taken by the candidates during the three years. This law did not take into sufficient consideration the odontologic technic, and upon the repeated representations of the odontologists it was modified by a decree of the 11th of January, 1909, which is in force at the present time, and which completes very effectively the legislation upon the matter.

Whenever a student in dentistry has undergone a course of general study giving him a certain degree of general proficiency in odontologic science, the law enjoins upon him five more years of study, two of which shall be given to probationary work and three to school work. The two years

of probationary work given exclusively to scientific and technical studies terminate with an examination for the validation of this probationary work. Then come three years of school work, and at the end of each year an examination.

It is after the third year and the last examination that the State diploma is given to the surgeon dentist.

Independently of the two dental schools above mentioned, both of them chartered by the State, the dental teaching, which is free, subject to certain limitations, is

equally given in the dental schools of Lyon and Nantes, as well as by the faculties of Bordeaux, Lille and Nancy. Besides *The Odontology*, other dental reviews are published. Likewise independently of the Odontological Society there have been established other scientific dental societies.

The First International Dental Congress met in Paris in 1889, and the Third International Dental Congress, which founded the International Dental Federation, met at the same place in 1900.

AMERICA

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of the statement of the Medical Faculty of the University of Maryland back in 1839, "that the subject of dentistry was of little consequence." A memorial to Thomas W. Evans, an American dentist practicing his profession in a foreign land, achieving distinction and success, gratifying a personal desire to give unto others, it stands today as the latest achievement bespeaking the progress and pre-eminence of American dentistry.

In summarizing: Dental schools, dental journals, dental associations, have made American dentistry what it is today, but each and all of these factors have been inseparably linked with the names of men whose lives and ideals were molded into character, founded on justice, developed in a sturdy environment and influenced by the finer sense of morality and ethics which means for all things immortalized fame.

NEW SOUTH WALES

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monwealth has formed a dental corps of officers, the senior dental surgeon in each State to be a captain and the other officers to be lieutenants.

Some years ago our dental journal was purchased by the four representative dental societies, viz.: The Odontological Society of New South Wales, the Dental Association of New South Wales, the University

of Sydney Dental Graduates' Society, the New South Wales Society of Dental Graduates. These gentlemen formed editorial and management committees, increased the size of the journal, canvassed the societies for subscribers and appointed an editor-in-chief in the person of Dr. Percy Ash. The journal is now one of the largest and most successful dental journals south of the line.

FINLAND

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tists is a member of its Hygienic Commission.

In the country, the General Society for Promoting the Care of the Mouth and Teeth does much useful work. By means of public lectures and popular essays, the society works for mouth hygiene, particularly among the lower classes of society, and for the introduction of instruction in the care of the teeth in the schools of the country. Three towns, Helsingfors, Abo

and Tammerfors, have a tooth clinique each, for national school children, where they receive rational attention to their teeth, free of cost.

Tooth-caries is, I regret to say, a very prevalent disease in Finland. According to examinations made in 1912, the teeth of 3,225 out of 3,400 national school children (average age 9½ years), or 94.9 per cent, were affected by caries.

The Dental Institute of Guatemala

By DR. EDUARDO CACERES

THE Dental Institute of Guatemala was established by special resolution of the Executive Council of the Republic on the 1st of February, 1896, and is affiliated with the Faculty of Medicine and Pharmacy, by whose executive board it is governed.

In the Institute, undergraduates receive theoretical and practical instruction in dental surgery gratis.

In order to gain admission to the courses given by the Faculty of Dentistry, it is absolutely necessary to have graduated in science and letters at a recognized university. The regular course occupies three years, and is as follows:

FIRST YEAR.

1. Anatomy.
2. Osteology.
3. Histology and Dissection.
4. Physics.
5. Chemistry.

SECOND YEAR.

1. Physiology.
2. Dental Pathology.
3. Embryology.
4. Operative and Prosthetic Technique.
5. Clinics.

THIRD YEAR.

1. Therapeutics.
2. Materia Medica.
3. Surgery.
4. Prosthetic Dentistry.

5. Orthodontia.

6. Operative Dentistry.

In October, which is the end of the academic year, the undergraduate must pass an examination in each subject of his course. After he has concluded his third year and has passed all his final examinations, he is then required to undergo a three hours' examination on theoretical and practical dentistry and also to present an original thesis (printed) on some subject previously prescribed by the dean of the faculty, and to answer a series of oral questions thereon, previously selected by the dean and secretary of faculty. The part of the examination bearing chiefly on the subject matter of the thesis is held by the faculty of the Institute in association with two surgeon dentists appointed for the purpose by the Minister of Public Instruction.

Foreigners who may have obtained the title of surgeon dentist in foreign countries are not allowed to practice in Guatemala without having previously submitted to the examination prescribed by the law of the Republic.

Natives of Guatemala who obtain their title in foreign countries may be incorporated in the faculty by a simple resolution of the executive board; but, notwithstanding this, the board has in contemplation the reform of this regulation to the extent of requiring from those who may desire to be incorporated, the Degree of Science and Letters or its equivalent.



THE GRAND CANYON OF THE COLORADO

From a painting by Thomas Moran

Courtesy of Sunset Magazine

The State of Dentistry in Italy

By DR. VINCENZO GUERINI

THE state of dentistry in Italy is still unsatisfactory, chiefly owing to the fact that up to a few years ago there were no special schools for the teaching of the dental art.

It was ordained by royal decree, April 24, 1890, that thenceforward all those intending to practice dentistry must be graduates of medicine. Of course, this did not affect the standing of those who were practicing dentistry prior to that date.

In consequence of this decree, a great number of medical men took up the dental profession, but in general with too brief and quite insufficient preparation, made after the conclusion of their medical studies. The medical course in Italy covers a period of six years and is usually completed at about the age of 25, but the dental specialty is not included therein.

The decree was evidently made with a view of raising the standard of dentistry in Italy, but it failed altogether to attain this object, for, no provision having been made for creating dental schools, the only effect of the decree was to produce, beside the older class of practitioners, another class, less efficient than the former, although provided with the medical degree. In fact, the former had learned the dental art, in general, by a practical career extending over many years, whilst the latter had, in most cases, entered the dental profession after a short and altogether insufficient preparation.

These unfavorable conditions still persist, in great part, even at the present day. Nevertheless, a certain improvement has already taken place, for seven years ago the Italian Institute of Stomatology (Istituto Stomatologico Italiano) was founded in Milan with plentiful and modern means

for the teaching of all parts of dentistry and oral surgery, and only a few months ago a new School of Stomatology was opened in Florence. The Milanese Institute of Stomatology admits as students only graduates of medicine who intend to specialize in dentistry; while the school at Florence admits also students of the last years of the course of medicine, thus affording the young men the advantage of a longer period of dental instruction, part of which may be carried out before the conclusion of their medical studies and part after the obtaining of the M. D. diploma.

The above-mentioned decree has recently passed into law. At the same time, a great number of illegal practitioners were allowed to continue dental practice, some by passing an examination proving their ability, some by simply presenting documents certifying that they had practiced dentistry for over fifteen years and were able practitioners.

At the present time, a certain number of stomatological societies exist in Italy, formed by the stomatologists of the different regions of Italy (Piedmont, Lombardy, Liguria, Tuscany, etc.). There is also an Italian Stomatological Federation (Federazione Stomatologica Italiana), which comprises all the regional stomatological societies.

The surgeon dentists, on the other hand, have also regional societies and a national federation (Federazione tra gli Ordini degli Odontoiatri d'Italia).

As to the professional press, it is now represented by two monthly journals, *La Stomatologia*, the official organ of the Federazione Stomatologica Italiana, edited by Prof. Dr. G. Coen-Cagli, and *L'Odonto-Stomatologia*, the official organ of the Federazione tra gli Ordini degli Odontoiatri d'Italia, edited by Dr. Vincenzo Guerini.



1—The New Punahon, Bishop Hall. 2—The Old Punahon (Oahu College). 3—The Library of Hawaii. 4—Building of the Faculty of Medicine and Dentistry, Lima, Peru.

Dentistry in Hawaii

By J. M. WHITNEY, M. D., D. D. S.

THE first record of the arrival of a dentist upon the Hawaiian Islands is contained in the following interesting advertisement from *The Polynesian*, published in Honolulu and dated Saturday, December 11, 1847:

"DENTISTRY

"Dr. M. B. Stevens, Surgeon Dentist, is now in Honolulu, and is fully prepared to perform any operation on the teeth that may be required, in the most scientific manner.

"He will insert teeth from one to an entire set, either on Pivot or Gold Plate, as the case may require. Fill teeth with gold or tin foil, clean, extract, etc."

His successor was Dr. John Mott-Smith, who arrived in 1851, and immediately took a high position, both professionally and socially, so much so that in 1868 he was called to fill a position in the cabinet of King Kamehameha V.

Dr. Mott-Smith was followed by Dr. Richards, who remained but a short time.

In 1869, at the urgent call of several residents, Dr. J. M. Whitney, a graduate of the University of Pennsylvania, arrived, and for many years was the only practicing dentist upon the islands.

With the increased coming of white residents, the number of dentists rapidly increased, until now there are probably as many, perhaps more, dentists in Honolulu

than in a mainland place of an equal population. Included in those practicing this profession are Portuguese, Chinese and Japanese dentists, who occupy a high position in the esteem of their own people and others.

In the year 1896, the first law relating to the practice of dentistry was passed by the legislature of Hawaii. The act provides that no person shall practice dentistry upon the islands without a certificate from the Board of Dental Examiners, this board to be appointed by the Minister of the Interior. The board was ordered to issue certificates to all holders of diplomas from reputable colleges of dentistry. All others must pass examinations within sixty days. A fine of five hundred dollars was exacted for practicing dentistry without a license. In 1903 a second law was passed, making the requirements more stringent, requiring a diploma from some college of dentistry as a condition of appearing before the License Board. The license may be cancelled at any time upon conviction of misconduct or felony; using assumed degrees is made a misdemeanor.

The Hawaiian Dental Society was organized in the year 1903 and has held yearly and special meetings to date. Valuable papers have been read and discussed, and not infrequently distinguished professional visitors have addressed the society and given clinics. The Dental Society nominates the Dental Board to be appointed by the Governor.

Know then thyself, presume not God to scan;
The proper study of mankind is man.

—POPE, Essay on Man.



1—The Royal Caroline Medico-Surgical Institute of Stockholm. 2—Tokyo Dental College.
3—Italian Stomatological Institute, Operating Room.

Japan

By DR. M. CHIWAKI

APAN had for a considerably long time developed a special feature of her own dental practice, until the modern dentistry was introduced some forty years ago, and today we can see a remarkable progress in dentistry made by young odontologists of this country.

It should be naturally advisable that if one is desirous to know the state of affairs in dentistry in this country, one ought to be accustomed with the dental law at first.

The Dental Law of Japan. The dental law of Japan (which deals with every matter of dental profession) was enacted on the 39th year of Meiji (1906), and every dental practitioner has had to be governed by this law.

The dental law of Japan consists of thirteen articles. The first article determines the qualifications of the candidate for the dental practitioner, which writes as follows:

(a) That he has graduated from a dental school designated by the Minister of Education.

(b) That he has succeeded in passing the examination for dental practice.

(c) That he not only graduated from a foreign dental school or obtained license for dental practice in a foreign country, but that he is recognized as a proper and duly qualified person by the Minister of Home Affairs.

The eighth article of the law provides that dentists may establish a dentists' association.

Examination for the License of Dental Profession. In accordance with the dental law, the regulations of the examination for the license of dental profession were issued on the second year of Taisho (1913), in which the following conditions are contained:

The applicant for the examination is required to have obtained the diploma of a dental school of three-year course, after he had completed the whole course of a middle school. The subjects for examination are:

Anatomy (histology included), physiology, pharmacology, pathology (bacteriology included), oral surgery, dental prosthetics and operatives (orthodontia included), provided with the examination in practice. The regulations will be, however, valid on and after the tenth year of Taisho (1921), and for the time being the regulations which were determined on the eighteenth year of Meiji (1886) take effect. The current regulation is more beneficent than the newly enacted one, as it grants anyone who has studied two years is qualified to be the applicant for examination for dental profession, and the subjects are dental anatomy, dental physiology, dental pharmacology, oral surgery, dental operatives, dental prosthesis, and practical trials.

Dental Schools. There are two kinds of dental schools in Japan: one is designated by the Minister of Education; its graduates are entitled to license for dental practice without being officially examined as to their personal attainments. There are now only two dental colleges of this kind, or designated dental institutes. One of them is the "Tokio Shikwa Igaku Semmon Gakko" (Tokio Dental College), which was established some twenty-five years ago by Dr. Kisai Takayama, and Dr. Morinosuke Chiwaki, succeeding the predecessor, is the present president. The students ought to be acknowledged, at their entrance, as well-qualified persons by passing the examinations of both qualities of culture and physical structure. The diploma is acquired after studying the preparatory course of six months and principal course of three years. The other college is the "Nihon Shikwa Igaku Semmon Gakko" (Japan Dental College), the president of which is Dr. Ichigoro Nakahara.

The other kind of dental institutes, or the schools which are not recognized by the Minister of Education, are at present nine in number. They give the necessary education to the would-be applicants for the preparation for the official examination.

The Graduates at American Dental Schools. Those persons who studied at least three years and graduated at a dental

school of the membership of N. A. of D. F. or D. F. A. of A. U., have been entitled so far to be dentists without examination, and any one who possesses the license for practice dentistry of any State has the right to be a dentist.

The Number of Dentists. At present the registered dentists in Japan are 2,404 in number, and it is observed that, in comparison with the population of this country, one dentist is to serve for a large people as 23,000 persons.

Dentists' Association. In every prefecture there is a dentists' association, if there are ten dentists or more are dwelling, in accordance the right of them bestowed on by the dental law. These associations are remarkably active and energetic for protection of the right of dental practitioners and for maintenance of public morality. The improvement of public health and every administration for that purpose has been strenuously enforced through the country by these associations.

Associated Dental Society of Japan (Nihon Rengo Shikwa Ikwai) is embodied for the purpose of combining the local associations alluded above, and holds annually the general meeting of the representatives of all associations, and it has five committees for the management of the society, and Dr. Seki-ichi Enomoto is the chairman of the committee.

As an organism for scientific investigation, the "Nippon Shikwa Igaku Kwai"

(Japan Odontological Society) is enjoying its long existence, most dental practitioners in Japan being its members. The monthly meeting is held in Tokyo, and once a year the general meeting takes place in the same city. Dr. Morinosuke Chiwaki is the president of the society. Besides these associations and societies, a few small bodies hold their gatherings frequently, of which some endeavor themselves to scientific research, and some others discuss solely social problems in close interests of dentistry.

Dental Periodicals. In connection with dental science, seven journals are monthly issued now in Japan, and besides there are published a few periodicals, but their issue is not regular.

The Relation of the Medical Practitioner to the Dentist. The distinction between physicians and dentists is very obscure in regard to professional practice. How far the medical practitioners are entitled to practice dentistry is the critical item of legal controversy. Discussions were vehemently made recently in the Imperial Diet. The medical school in Japan does not give any education in dentistry. The Medical Department of the Imperial University has had the chair of dental science for not a short time, but it remained long as an optical course for students. Last year the course became obligatory, and twenty hours are allotted to the dental education. The professor of the chair is Dr. Hisashi Ishihara.

My curse upon thy venom'd stang,
That shoots my tortured gums along;
And through my lugs gies monie a twang,
Wi' gnawing vengeance,
Tearing my nerves wi' bitter pang.
Like racking engines!
—BURNS, Address to the Toothache.

Netherlands

By DR. M. DE BOER

THE Dental Institute of Utrecht, the only one in this country, is a department of the State University and has developed from a three-room house (1865) to the building shown in the picture, which dates from 1910 and has, nearly from its foundation, proven to be too small for the accommodation of the present number of students.

The first lecturer, nominated by the Government in 1877, had to teach medical students the diagnosis of dental and oral diseases and the medical treatment. For this purpose those students could attend a clinic three times a week. To understand this teaching, one lecture on special anatomy, physiology and pathology was given.

A few young men, who took up dentistry as their future profession, soon made their appearance in these places, and a special lecture was held for them on fundamental dental treatment. By and by they increased in number and medical students stayed away, as this special knowledge was not required in their medical examinations.

The lecturer wanted an assistant and the building became too small. A new house was taken in 1895, providing more air and light, but nothing with which to teach practical dentistry. There was not even a curriculum announced. Conditions seemed to continue as they were before. Students, then about twenty-five in number, were kept busy only four hours a week, and as this resulted in insufficient preparation for the final examinations, they made a present of modest furniture for the technical department, to the institute and sent a request to the Government, asking for practical teaching. A favorable answer came, another assistant was appointed, and an installation made for the operative room. Years passed and everything changed; the number of students was increasing and the

Government became convinced that something more ought to be done. A private residence, an old-style house, was rebuilt and enlarged, and opened in 1910. A staff of five lecturers and a dozen assistants, however, at this time does not yet seem adequate to give all the teaching necessary for about 200 dental students in a four years' course. Plans for building extension and a call for more assistance in the work, are being put before the Government, and in the interest of all it is to be hoped that teacher and student may soon be contented.

Up to 1893, the law did not require any preliminary study for those who intended to take up dentistry; they had only to pass two examinations, a theoretical and a practical one, and it did not matter whence the knowledge came nor how long the practical experience.

A committee of medical professors of any of the State universities constituted a board for the theoretical examination; for the practical examination the student appeared before a committee consisting of the lecturer and two private dentists, who presented a report of their examination to the board of examiners for physicians. Since the year mentioned above, entrance to dental courses is allowed only to those who are also admitted to f. i. medical courses. Lectures on general branches can be attended in the medical department, whilst special and purely dental teaching is the business of the dental lecturers. At the present time both examinations take place in Utrecht only.

The first dental society dates from 1881 (membership from now on only by invitation); another one has existed since 1904, and last year a national society with district departments of a more social character was founded. In addition, some local societies are in existence.

One dental periodical is published monthly.

Dentistry in New Zealand

By DR. H. P. PICKERILL

EGAL Restrictions. Admission to the practice of dentistry in New Zealand is governed by "The Dentists' Act of 1904." This act provides that to be entitled to be registered as a dentist, one must be the holder of a degree in dental surgery from the University of New Zealand, or the holder of a certificate of proficiency in dental surgery or dentistry issued by the Senate of New Zealand University, or the holder of a British or foreign diploma, or he must have been an apprentice or a practicing dentist prior to the passage of the act.

Registration. Every dental student, before entering upon his course, either for the degree or for the certificate, must be registered as a student by the registrar of the New Zealand University. No student can be registered unless he either has passed the preliminary dental examination of the New Zealand University, or is a graduate of a university in arts or science, and has commenced the study of dentistry,

either with a private practitioner or at one of the affiliated colleges.

Dental students may now obtain, at the Dental School of the University of New Zealand, all the teaching and training required by the Senate of the University for the degree of Bachelor of Dental Surgery, and for the certificate of proficiency in dental surgery.

Charitable Work. Attached to all the chief hospitals in the Dominion are public dental departments with stipendary dentists in charge, assisted by honorary staffs, where a large amount of dental treatment is undertaken for patients who cannot afford the ordinary practitioners' fees.

New Zealand Dental Association. This is a "national" association with twelve branches thoroughly organized throughout the country.

The association fosters professional meetings, scientific research, undertakes prosecutions of unregistered practitioners, insures its members against action for damages, and publishes the *New Zealand Dental Journal*. An annual conference is held in Wellington.



Lick Pioneer Monument, San Francisco

Dentistry in Peru

By DR. P. R. SALAZAR

S regards the profession of surgeon dentist and its progress in Peru, I can comply with your request, and do so, at the same time, with exactitude, by taking excerpts from a work, which is still unedited, by Dr. Humberto

Fernandez Dávila, and the prologue to which has been written by Dr. Christian Dam, dean of the dentists in Peru. This work has not been as yet published, because the author has been absent in Pennsylvania, U. S. A.

"Odontology in Peru has been overlooked by everybody and only on very rare occasions has it attracted the attention of the authorities charged with the administration of public education in the Republic."

"No serious thought has ever been taken with a view to teaching that branch of surgery, nor has the most insignificant sum of money ever been appropriated to this important study."

"Our general regulations of education assigned a place in the curriculum of professional studies to this science, and placed the teaching of the theory under the charge of the Faculty of Medicine, leaving the practical instruction entirely in the hands of the practicing dentists."

Some of the details presented by Dr. H. Fernandez Dávila in the work above quoted are rather curious, and speaking of the history of dentistry in Peru, he says as follows: "Amongst the ancient Peruvians, the art of curing the diseases of the mouth and teeth was carried on by means of herbs and medicinal plants." And Garcilaso de la Vega, in his "Comentarios Reales," Vol. II, Chapter 20, in speaking of the methods employed for curing the gums by the Indians, gives the following description of the way they utilize a special root:

"The Indians also employed the *Tacamaca*, a rosin which they used to place in the hollow of a tooth, or the *Palo Santo* (Holy Wood) either in syrup or infusion, as a mouth wash. Tobacco was employed in the form of a pellet and made out of

the leaf of the plant and introduced into the hollow of the tooth, thus relieving the pain. They also utilized Saxifrage and *Cardo Santo* for the same purpose."

"Another remedy employed by them to relieve toothache was the juice of the *Lechuguilla silvestre*, which is very bitter."

The present organization of the profession of dental surgery in Peru dates from the year 1856, when reforms were introduced in the teaching and practice of medicine, and, as Dr. H. Fernandez Dávila very truly says: "It does not really respond to the present requirements of the profession as regards scientific knowledge and practice. The progress made in dental science and the experience of over half a century, as well as the public necessities which have varied since that date, demand a radical reform in this important branch of medicine."

In the year 1856, the practice of odontology was unknown to the natives of the country and only three foreigners were recognized as dentists: Doctors C. Petit, E. Proby and M. Dupuch.

"There was no teaching on the subject nor was a dental curriculum established in any way whatever, and only the foreign dentists underwent a superficial examination in order to revalidate their diplomas and obtain authority to practice their profession in Peru, whilst others even omitted this official formula and freely opened their offices to the public." (Dr. H. Fernandez Dávila, D. D. S.)

It was not until the year 1810 that pupils matriculated for the study of dentistry in the School of Medicine, and these were two, Don Julio Pebaqué, a native of the island of Martinique, and Don Aurelio Marquez, a native of Lima, Peru.

In 1812, acting under authority of Congress, the then President of the Republic, Don Manuel Pardo, issued a new set of regulations on public education, which are still in force. Under Art. 279, these regulations specified a term of only two years for the study of dentistry, but this article was subsequently amended by increasing the time to three years.

Strictly speaking, we have no dental school in Peru with professional dentists as professors, but simply dental students who have matriculated in the School of Medicine, and who, in order to study the practice of that profession, have to do so in the offices already established by surgeon dentists who have received their diplomas from the faculty. These students have to

present a certificate every year to the faculty, issued by the dentist with whom they study, in order to be examined.

In order to correct this anomaly, a bill has been presented in the National Congress by the dean of the Faculty of Medicine, which will provide for the foundation of a school of dental practice with a staff of competent professors.



United Dental Hospital of Sidney, N. S. W., Australia



1—Examining Recruits, Recruit Depot, Columbus Barracks, Ohio, U. S. A. 2—Dental Office, U. S. A., Fort Sill, Oklahoma. Courtesy Dr. Thompson. 3—Dental Office, U. S. A., Fort Sill, Oklahoma. Courtesy Dr. Thompson.



1—Santa Catalina Palace, Residence of the Governor of Porto Rico since 1822. Built in 1538 as a castle; transformed into a Government house in 1639; reconstructed in 1846. 2—College of Medicine and Surgery in which the Philippine Dental College is provisionally quartered.

The Philippine Islands

By DR. LOUIS OTTOFY

IN the far-away Philippines satisfactory progress is being made. This year especially is an important epoch in the history of dentistry in the Archipelago.

Last February a new dental law was enacted, repealing bad features of the old; adding at least one, *entirely original in dental legislation*, which it would be well for our States to copy. In the old law there was a provision under which a local institution granted titles of "Minor Surgeon" to students who attended a course "of not less than two years, and studied dentistry for four months." While this clause was enacted twelve years ago with good intention, one can see at a glance that it is pernicious. These inexperienced men were "limited to practice in remote towns where there is no regularly qualified dentist available." There being only five such towns in the islands, these men engaged in practice practically everywhere. More than one hundred of this class were turned out during the last eleven years. This clause has been repealed; hereafter no one can enter practice unless he possesses a diploma from a dental school and in addition passes an examination before the Board. The Board has also been given power to define the reputability of dental colleges in order to be recognized by it.

The new feature of the law is contained in the section which relates to the revocation of licenses. It gives authority to the Board to revoke licenses for the usual causes, and in addition for the "*wilful destruction or mutilation of a natural tooth of a person with the deliberate purpose of substituting the same by an unnecessary or unessential artificial tooth.*" With that power conferred on the Board, it is hoped to eradicate this reprehensible practice, unfortunately introduced since American occupation; that is, the destruction of

sound teeth for no other purpose than the placing of gold crowns.

Last February, also, a dental school was established by the University of the Philippines—an institution rapidly taking a prominent place as a seat of learning. The standard of education is of the highest. Requirement for admission is a high school diploma. The course of instruction covers four years. The first course commenced last June, simultaneously with the academic year of the university. The medical school, with which the dental school is connected, is as thoroughly equipped a medical college as may be found anywhere. One of our illustrations depicts this fine building, while another indicates that our confrères in the islands seem to be carrying the white man's burden quite well.

By an act of the legislature there was also created a "Dental Hygiene Commission," which is authorized by law to receive public subscription to an amount not to exceed \$2,000, and with this money to open free dental clinics in the public schools. This money is being collected, and the clinic has been installed in the public schools. It is only the beginning of a great work, thus making 1915 the banner dental year in Philippine history. There are a number of dental clinics in Manila, which are doing much good. The Federal prison is provided with a dental office for prisoners; several hospitals have dental clinics connected with their infirmaries. More than 16,000 poor people have been treated in these clinics during the past eleven years; over 42,000 operations were performed in these clinics.

The Bureau of Health has purchased and installed in its "Health Railroad Car" the lecture on "Mouth Hygiene," illustrated with thirty-six lantern slides, prepared by our National Mouth Hygiene Association.

From these progressive activities we can realize that the members of our profession are doing nobly the uplift work for humanity in our most distant possessions.



1—City Hall, San Juan, P. R. 2—Normal School Building, University of Porto Rico, Rio Piedras, P. R. 3—U. S. Federal Building, San Juan, P. R. 4—Memorial Hall, University of Porto Rico, Rio Piedras, P. R.

Dental Association in Porto Rico

By DR. MANUEL V. DEL VALLE

ORTO RICO is the most westerly of the smaller Antilles. It is situated in the tropics between 17° 50' and 18° 30' north latitude and 65° 30' and 67° 15' west longitude, Greenwich meridian. Its position on the map is east of

Santo Domingo. The island is almost rectangular in shape, measuring about 100 miles in length and 36 in width. By comparison, it is about three-fourths the size of Connecticut. It is traversed by a chain of mountains, the highest being 3,609 feet above sea level. The temperature varies according to the locality. On the coast it ranges between 78° and 82° Fahrenheit, and in the mountains from 57° to 75°.

The island was discovered by Christopher Columbus on his second voyage, November 16, 1493. It is at present divided into seven districts. San Juan is the capital of the island and was founded by Juan Ponce de Leon in 1511. It boasts, therefore, of being the oldest city in the United States.

Porto Rico was under the Spanish rule until October 18, 1898, when its sovereignty was transferred to the United States by reason of the Spanish-American War.

The dental profession in Porto Rico during the Spanish domination followed the same fate as that in the mother country—it was not regulated at all, and the pulling of an offending tooth was entrusted to the barbers. Not until 1875 was there any legislation in favor of the dental profession. At that time the realm published a decree prohibiting the practice of the profession except by those that had received certain instruction at the university. But the requirements were slight and the violation of this decree was not looked upon as a great offense.

Upon the United States assuming control of the affairs of the island, the military department detailed a medical officer to examine the licenses already granted and ordered the renewal thereof, but as there was found a number of practitioners who were doing dental work by tolerance, those also were given a license to practice.

Afterwards the island was given, by act of Congress, a civil government, and the Insular Legislature passed an act organizing a Board of Dental Examiners, which act became law March 9, 1905. Since that time all candidates seeking permission to practice dentistry in the Island of Porto Rico are required to pass an examination and must present to the Board a diploma from a recognized school or college. No other preliminary education is required.

There is an effort now being made to modify the law, as there is great difficulty in suppressing intruders who from previous tolerance consider that it is no crime to invade a profession for which they have received no training.

The island now has a dental association to which the majority of the ethical practitioners belong and which is incorporated with the National Dental Association of the United States. To the efforts of the Porto Rico Dental Association the profession will be indebted for any modification of the present law, which will provide, among other requirements, a certain standard of preliminary education.

There are as yet no institutions devoted to the teaching of dentistry. The University of Porto Rico is now in the formative period of organization, and so far has established only the departments of pharmacy and law, besides the normal school course. It is the intention in the near future to establish a department of dentistry.

Dentistry in Sweden

By DR. ELOF FORBERG and DR. IWAN LAMBY

ENTAL instruction in Sweden is under supervision of the Government and covers a period of three years. Having passed the last examination, the dentist gets his license for practice without any further examination. In order to be entitled to enter the university for studying dentistry, he has to have the same preliminary examinations as for studying medicine, viz., twelve years' continuous study, beginning as a rule at six years of age, leading to matriculation examination. The dental curriculum is divided into two parts, viz., one year's general medical study and two years' special dental study. The first year's course is taken at the Royal Caroline Medico-Surgical Institute (Kungliga Karolinska Medico-Kirurgiska Institutet) and is finished with an examination. The same professors are instructors in the different subjects for the dental students as for the medical students. The subjects are: Anatomy, Histology with Embryology, Pathology with Bacteriology, Inorganic and Organic Chemistry with Metallurgy, Pharmacy, Physiology.

The special dental instruction is given in a special building, the Dental Institute (Tandläkare Institutet), in the center of the city. The subjects in the special two years' course are General Surgery, Oral Surgery with diagnoses and treatments of all kinds of dental and oral diseases, Operative Dentistry, Prosthetic Dentistry and Orthodontia. The different parts of the practical study are divided in such way that every second day half of the students have two hours of Oral Surgery and diagnoses and five hours of Operative Den-

tistry; the other half, Prosthetic Dentistry and Orthodontia.

There are only thirty new students admitted every year. Lady students are also admitted. There generally are over one hundred applicants. Those who have the highest grades in the matriculation examination are admitted.

The national societies in Sweden are two. They are organized in such a way that one, the Swedish Dental Association (Svenska Tandläkare-Sällskapet), has to promote the odontological science and its practical application; the other, the Dental Federation of Sweden (Sveriges Tandläkare-Förbund), has to promote the dentists' social and economical interests. Both societies have their seats at the capital, Stockholm, but have members in the whole of Sweden, and, in fact, nearly all Swedish dentists are members. The Swedish Dental Association has meetings bi-monthly. The Dental Federation of Sweden, which is subdivided into local societies, has only one general meeting every year. Both publish periodicals with four numbers yearly. *Swedish Dental Journal* (*Svensk Tandläkare-Tidskrift*) is the official organ of the Swedish Dental Association and contains scientific and practical contributions. The *Journal of the Dental Federation of Sweden* (*Sveriges Tandläkare-Förbunds Tidning*) is the official organ of the Federation and contains social and economic contributions. The Swedish Dental Association has a large library and a historical museum in its own building; it also has some endowments which provide for assisting in scientific work and one for the widows and orphans of deceased Swedish dentists.



Courtesy of Sunset Magazine

Lake Mary in the Wasatch range. It's but two hours, via the gasoline route, from the shores of the Salt Lake to the glacial lakes of the mountains, snow-rimmed in August. To these uplifted lakes the pioneers trekked in ox-wagons for their summer outings. Their descendants fly to the cool crest in motor-cars

Dental School of Salvador

By DR. J. SCHNEIDER

THE Dental School of Salvador was organized and founded in December, 1899, and annexed to the Medical Department of the National University.

At the time, the President of the Republic was General Tomás Regalado, and the rector of the university, Doctor Ricardo Moreira.

The first director of the Dental School was Manuel U. Urreta, D. D. S. The successive directors have been Doctors Oscar F. Prey, Alejandro Cromeyer and Enrique Gonzalez, S., who up to the present time is at the head of the school.

At the beginning of the first session, there were forty-one matriculates, of which number fifteen obtained diplomas, and since then an average of five students have been

graduated annually, most of whom are practicing the profession in different parts of Salvador or Central America.

The course for the degree is three years.

The lecture hall and infirmary are situated in the medical school building, which has but recently been completed and the cornerstone of which was laid during the presidency of Doctor Manuel E. Araujo two years ago.

The school is not self-supporting, as students are not charged an annual tuition fee, being required to pay only a matriculation fee and final examination and diploma fees.

The teaching corps is paid by the Government and equipments have been acquired by charging a small percentage above cost for all materials used in the clinical work of students.



Music Stand in the Golden Gate Park



1—Dental Office, Camp Tacoma, Washington. Northwest Maneuvers, August, 1906, U. S. A.
2—Field Transportation of Dental Outfit, U. S. A. Ft. Sam Houston, Texas. Photographs courtesy of Drs. Carpenter and Fairbanks.

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George F. Stiehl, Salt Lake City, Chairman; A. C. Wherry, I. P. Stewart, W. G. Dalrymple, H. W. Davis.

VERMONT

Thomas Mound, Rutland, Chairman; Fred H. Brown, G. E. Patridge, Fred R. Newell, J. A. Pearsons.

VIRGINIA

H. Wood Campbell, Suffolk, Chairman; W. M. Sturgis, R. L. Simpson, J. P. Stiff, E. P. Beadles.

WASHINGTON

George T. Williams, Seattle, Chairman; F. I. Shaw, W. G. Alexander, R. A. Munro, F. G. Titus.

WEST VIRGINIA

Frank L. Wright, Wheeling, Chairman; W. J. Boydston, D. C. Clark, L. George Beerbower, H. H. Smallridge.

WISCONSIN

Henry L. Banzhaf, Milwaukee, Chairman; William H. Mueller, T. A. Hardgrove, V. V. Mason, W. T. Hardy.

WYOMING

William Frackelton, Sheridan, Chairman; E. O. Cain, W. C. Cunningham.

ALASKA

T. H. White, Sitka, Chairman.

Officers of the Sections

SECTION I

Anatomy, Physiology and Histology

I. NORMAN BROOMELL, *Chairman*,
Philadelphia, Pa.
W. H. G. LOGAN, *Vice-Chairman*,
Chicago, Ill.
MALCOLM GODDARD, *Secretary*,
San Francisco, Cal.

SECTION II

Etiology, Radiography, Pathology and Bacteriology

FREDERICK BOGUE NOYES, *Chairman*,
Chicago, Ill.
R. H. HOFMEINZ, *Vice-Chairman*,
Rochester, N. Y.
W. H. RENWICK, *Secretary*,
Sacramento, Cal.

SECTION III

Chemistry and Metallurgy

M. L. WARD, *Chairman*,
Ann Arbor, Michigan.
HENRY H. BOOM, *Vice-Chairman*,
Philadelphia, Pa.
H. A. TUCKEY, *Secretary*,
San Francisco, Cal.

SECTION IV

Oral Hygiene and Prophylaxis

HERBERT L. WHEELER, *Chairman*,
New York City, N. Y.
W. W. BELCHER, *Vice-Chairman*,
Rochester, N. Y.
ROBERT W. HALL, *Secretary*,
Salt Lake City, Utah.

SECTION V

Materia Medica and Therapeutics

J. P. BUCKLEY, *Chairman*,
Chicago, Ill.
CARL D. LUCAS, *Vice-Chairman*,
Indianapolis, Ind.
FRANK C. PEARN, *Secretary*,
Portland, Ore.

SECTION VI

Oral Surgery

TRUMAN W. BROPHY, *Chairman*,
Chicago, Ill.
ADOLPH BERNHART BAER, *Vice-Chairman*,
San Francisco, Cal.
E. S. BARNES, *Secretary*,
Seattle, Wash.

SECTION VII

Orthodontia

J. LOWE YOUNG, *Chairman*,
New York City, N. Y.
ROBERT DUNN, *Vice-Chairman*,
Oakland, Cal.
JAMES DAVID MCCOY, *Secretary*,
Los Angeles, Cal.

SECTION VIII

Operative Dentistry

JOHN SAYRE MARSHALL, *Chairman*,
Berkeley, Cal.
H. E. FRIESELL, *Vice-Chairman*,
Pittsburg, Pa.
E. A. TRIPP, *Secretary*,
Salt Lake City, Utah.

SECTION IX

Prosthesis

ELLISON HILLYER, *Chairman*,
Brooklyn, N. Y.
F. W. HERBERT, *Vice-Chairman*,
Seattle, Wash.
C. O. EDWARDS, *Secretary*,
Oakland, Cal.

SECTION X

Education, Nomenclature, Literature, History, Legislation

C. N. JOHNSON, *Chairman*,
Chicago, Ill.
HOMER C. BROWN, *Vice-Chairman*,
Columbus, Ohio.
HENRY C. FIXOTT, *Secretary*,
Portland, Ore.



San Francisco Views: 1—Postoffice. 2—Drying nets at Fisherman's Wharf. 3—United States Mint.

Membership and Rules

QUALIFICATIONS FOR MEMBERSHIP

State and National Executive Committees are empowered to receive applications for membership from none but legal and reputable practitioners of Dentistry, who are personally known to be such, vouched for by an officer of the principal dental society of their locality, or by some other known reputable and legal practitioner. Each application must be signed by a member of a State or National Executive Committee.

FEES: MEMBERS AND VISITORS

Membership fee is ten dollars.

Visitors to the Congress are not eligible for membership.

Members may introduce members of their families as visitors to the Congress upon payment of a fee of \$2.50.

The membership fee includes admission to all the general sessions and Section meetings of the Congress, a copy of the official program and the complete printed transactions of the Congress when issued.

PARLIAMENTARY RULES

"Roberts' Rules of Order," a copy of which may be obtained from the Secretary, is the authority for deciding all parliamentary questions arising in general sessions or Section meetings of the Congress.

RULES GOVERNING OFFICERS OF SECTIONS, AND STATE AND NATIONAL EXECUTIVE COMMITTEES

Rules governing the Officers of Sections and Chairmen and Members of State and National Executive Committees of the Panama-Pacific Dental Congress, to be held in San Francisco, California, August 30 to September 9, 1915.

RULE I

The Officers of each Section shall constitute the Board of Censors for that Section.

RULE II

The Officers of each Section shall cooperate with State and National Executive Committees in securing Papers and Clinics

for the Program of the Congress, and also with the Program and Clinic Committees.

RULE III

The Officers of each Section and the Chairmen and Members of State and National Executive Committees are empowered to solicit and receive from legal and reputable practitioners of Dentistry and Medicine, and persons proficient in the Allied Sciences, Papers and Clinics on subjects of interest to the Congress, it being understood that each Essayist or Clinician is an authority on, or particularly well qualified to deal with, the subject presented.

RULE IV

The Chairman of each Section is invited to deliver an address before his Section, not to exceed twenty minutes in length; this address to constitute one of the Papers of that Section.

RULE V

The aggregate number of Papers accepted shall not exceed ten for each Section, and not more than two-fifths of those accepted may be read by title.

RULE VI

Papers may be read and discussed before the Congress in any language, but copies of all Papers, or Summaries of Papers, and Discussions, typewritten in the English language, ready for printing, must reach the Program Committee in San Francisco not later than May 1, 1915.

RULE VII

Each Paper and Discussion will be printed in full in the published transactions of the Congress, but a maximum of twenty minutes only will be allowed for the reading of a Paper, or a summary of it, embracing its leading points, in case the reading of the original would occupy more than the allotted time, and five minutes for each speaker taking part in the discussion; not more than fifteen minutes will be allowed for the discussion of any paper, and the author will be allowed five minutes in closing the discussion.

The author of each Paper is requested to furnish the Secretary of the Section to

which his Paper belongs with the names and addresses of those who will discuss his paper.

RULE VIII

No Clinic will be given a place on the Program of the Congress unless a concise description of it, typewritten in the English language, ready for printing, reaches the Clinic Committee in San Francisco on or before May 1, 1915.

RULE IX

State and National Executive Committees are governed by the rules governing the Officers of Sections, so far as they apply. Note particularly Rules II, III, V, VI, VII and VIII; also

RULE X

Each contribution to the Program, either Paper or Clinic, shall be sent promptly to the Chairman of the Section to which its title indicates it to belong. In case of doubt, it shall be sent to the office of the Committee of Organization in San Francisco, this Committee determining its place on the Program.

RULE XI

In the event of any controversy arising between Contributors and the Officers of any Section, the question at issue shall, at the discretion of the Officers of the Section, be submitted to the Committee of Organization for final adjustment.



State Capitol, Sacramento

Synopsis of General Program

MONDAY, AUGUST 30, 1915

9:00 a. m.—REGISTRATION OF MEMBERS. (Registration booths under balcony, first or main floor.) A certificate of membership will be issued by the General Secretary. Upon presentation of this certificate at the office of the Program Committee, a copy of the Official Program will be given the member.

9:30 a. m.—Meeting of the Psi Omega Dental Fraternity, National Alumni.

10:00 a. m.—Meeting of the National Association of Dental Examiners.

10:00 a. m.—Meeting of the American Society of Orthodontists.

12:00 m. to 1:30 p. m.—Interval for luncheon.

1:30 p. m.—Opening of the Panama-Pacific Dental Congress (main floor, west side).

Music.

Address—Jas. A. Barr, Director of Congresses.

Address—Hiram W. Johnson, Governor of California.

Music.

Address—James Rolph, Jr., Mayor of San Francisco.

Address—Chas. C. Moore, President of the P. P. I. Exposition.

Music.

Address: Burton Lee Thorpe, St. Louis, Mo.

Address—Donald M. Gallie, President National Dental Association.

Music.

Address—Truman W. Brophy, President Federation Dentaire Internationale.

Address—Frank L. Platt, President Panama-Pacific Dental Congress.

Addresses by Foreign Delegates (in alphabetical order of the names of the country they represent).

Music.

1:30 p. m.—General Reception to Delegates, Psi Omega Fraternity. Auditorium.

2:00 p. m.—Opening Exercises, First Annual Convention, National Alumni Chapter, Psi Omega Dental Fraternity. Auditorium.

5:00 to 8:00 p. m.—Interval for dinner.

8:00 p. m.—Informal Reception to Members and Ladies. (At the California Host Building, Panama-Pacific International Exposition.) Music, dancing.

TUESDAY, AUGUST 31, 1915

9:00 a. m.—Reading of papers. See *Daily Bulletin* for details and subjects. See this program, pages 91, 109, 113, for sections, subjects, authors, etc.

10:00 a. m.—Meeting of the National Association of Dental Examiners.

12:00 to 1:30 p. m.—Interval for luncheon.

1:30 p. m.—Clinics; fourth floor. See

Daily Bulletin for subjects and details. See this program, page 117, for general announcement of clinics, etc.

6:00 to 7:30 p. m.—Interval for dinner.

7:30 p. m.—Moonlight Excursion on the Bay. Limited to 250. Make reservations at Entertainment Booth before 5 p. m. Monday, August 30th. Fare, 50c. Leave Crowley's Wharf, Mission Street.

SYNOPSIS OF GENERAL PROGRAM

WEDNESDAY, SEPTEMBER 1, 1915

- 9:00 a. m.—Reading of Papers—continued.
- 10:00 a. m.—Meeting of the Delta Sigma Delta Dental Fraternity.
- 10:00 a. m.—Meeting of the Scientific Foundation and Research Commission of the National Dental Association. (See this program, page 83, for details.)
- 10:00 a. m.—Trip to Battleships in Bay. Giving a close and intimate view of the battleships at anchor in San Francisco Bay. Landing passengers at the yacht harbor at Exposition before noon. Make reservations at Entertainment Booth before 5 p. m. on Tuesday, August 31st. Parties limited to 250. Fare, \$1.00. Leave Crowley's Wharf, Mission Street.
- 12:00 m. to 1:30 p. m.—Interval for luncheon.
- 1:30 p. m.—Clinics—continued.
- 2:00 p. m.—Meeting of National Dental Association House of Delegates.
- 7:00 p. m.—Delta Sigma Delta Fraternity Annual Banquet, St. Francis Hotel.

THURSDAY, SEPTEMBER 2, 1915

- 9:00 a. m.—Reading of Papers—continued.
- 9:30 a. m.—Meeting of the Southern California Dental Society.
- 10:00 a. m.—Meeting of the Scientific Foundation and Research Commission of the National Dental Association—continued.
- 9:15 a. m.—Trip to Mt. Tamalpais and Muir Woods.
Mt. Tamalpais has the grandest mountain railway on earth.
The world affords no more alluring or entertaining trip than that to the summit of Mt. Tamalpais and the mighty Redwoods of the Muir Woods. The outlook from the Tavern at the summit is one of indescribable splendor, giving an unobstructed view of the entire bay region, the great mountain ranges and the broad Pacific, the Golden Gate, San Francisco and the Exposition buildings.
Take the Sausalito Ferry from Union Ferry Depot, foot of Market Street, and go to the summit of Mt. Tamalpais, via the Mill Valley and Mt. Tamalpais Scenic Railroad. A sail on San Francisco Bay, a ride on "The Crookedest Railroad in the World," a continuous, ever-changing panorama of mountains, valleys, ocean, bays, cities and towns, as you gradually ascend to a height of half a mile above the surrounding country. You see more from Mt. Tamalpais than from any other mountain peak in the world; on a clear day the snow-capped Sierra Nevada Mountains, 155 miles distant, can be plainly seen, and Mt. Shasta, rising nearly three miles high and 300 miles away, can be discerned. The Mt. Tamalpais trip gives one the best idea of locations in California.
Round trip to either, \$1.90. Round trip to both, \$2.90.
Boat leaves San Francisco, foot of Market Street: 9:15, 10:45, 11:45. All-day trip. Lunch at Tavern, 75c.
No reservations necessary. Tickets on sale at ferry.
- 12:00 m. to 1:30 p. m.—Interval for luncheon.
- 1:30 p. m.—Clinics—continued.
- 2:00 p. m.—Meeting of the Federation Dentaire Internationale.
- 2:00 p. m.—Meeting of the National Dental Association, House of Delegates.
- 8:00 p. m.—Special Events at the Exposition. (See daily papers for program.)

SYNOPSIS OF GENERAL PROGRAM

FRIDAY, SEPTEMBER 3, 1915

- 9:00 a. m.—Reading of Papers—continued.
- 11:00 a. m.—Six-hour trip, including lunch at Peninsula Hotel at San Mateo. Limited to 250. Make reservations at Entertainment Booth before 5 p. m. Thursday, September 2d. Total cost, \$2.00.
- 12:00 m. to 1:30 p. m.—Interval for luncheon.
- 1:30 p. m.—Clinics—continued.
- 2:00 p. m.—Meeting of the Federation Dentaire Internationale.
- 6:00 p. m.—Psi Omega Dinner at Old Faithful Inn, Exposition Grounds.
- 7:30 p. m.—Moonlight Excursion on the Bay. Parties limited to 250. Make reservations at Entertainment Booth before 5 p. m. Thursday, September 2d. Leave Crowley's Wharf, Mission Street. Fare, 50c.
- 9:00 p. m.—Informal Dance, Ballroom, California Building, Exposition Grounds.

SATURDAY, SEPTEMBER 4, 1915

- 9:00 a. m.—Reading of Papers—continued.
- 10:00 a. m.—Ocean Shore Scenic Trip. A fifty-mile trip. Train leaves depot at Twelfth and Mission Streets at 10 a. m., arriving at Moss Beach at 11:30 a. m., where a fine shore dinner will be served. Dancing, swimming, etc. Returning, leave Moss Beach at 3:55 p. m., arriving in San Francisco at 5:30 p. m. Limited number. Fare \$1.00. Dinner, 75c.
- 12:00 m. to 1:30 p. m.—Interval for luncheon.
- 1:30 p. m.—Clinics—continued.
- 2:30 p. m.—Psi Omega Special Entertainment Feature (excursion). All Psi Omegas invited. Register for this trip at the Panama-Pacific Psi Omega Club. Headquarters at the Auditorium.
- 8:00 p. m.—Entertainment for the Men of the Congress, at the quarters of the Olympic Club. Of unusual interest. Admission strictly by card, issued by the Entertainment Committee. Make reservations before 5 p. m. Friday, September 3d. No expense.

SUNDAY, SEPTEMBER 5, 1915

- 9:00 to 11:00 a. m.—Swimming at Sutro Baths. The largest indoor salt-water tank in the world. Bathing suits can be had at baths for nominal sum.
- 12:00 m.—Alameda County Day.
Guests will leave San Francisco by 12 o'clock Key Route boat, under escort of the Entertainment Committee, for the Hotel Oakland, where automobiles will be in waiting for a drive around beautiful Lake Merritt, through Lakeshore Park and over the hills surrounding the lake, to the Foot-hill Boulevard. The exclusive residence district of Oakland and the setting of its beautiful homes; thence to Berkeley via the Scenic Boulevard, to the Greek Theater and the campus of the University of California and other points of interest in Berkeley, after which the return to Oakland via a different route, visiting points of interest in Oakland. A dinner will be served at Hotel Oakland at 5 o'clock, before returning to San Francisco.
- Make reservation at Entertainment Booth. Reservations close at 5 p. m. on September 4th. Limited to 500. Dinner expense only.
- (Above program tentative. See daily bulletin for details.)
- 8:00 p. m.—Spectacular Pyrotechnic Display at the Exposition.



The Auditorium, San Francisco

SYNOPSIS OF GENERAL PROGRAM

MONDAY, SEPTEMBER 6, 1915

9:00 a. m.—Reading of Papers—continued.

9:30 a. m.—Meeting of the Utah State Dental Association.

9:45 a. m.—Mare Island Navy Yard Excursion.

Beautiful Bay trip and visit to Mare Island, where the special privilege has been offered our guests to inspect U. S. Government Navy Yard.

The trip up the Bay offers many features of interest, especially Alcatraz Island (Government prison), Angel Island (the quarantine station), Richmond with its huge oil refineries, Pinole Powder Works, Breakwater and Lighthouses, and many picturesque islands through the course.

Leave Clay Street Wharf, Monticello Steamship Co. Arrive Mare Island 11:30 a. m. Leave Mare Island, returning, 3:20 p. m. Arrive in San Francisco about 5:30 p. m.

Trip in charge of Entertainment Committee.

Limited to 250. Expense, \$1.00. Make reservations at booth of Entertainment Committee before 5 p. m. Saturday, September 4th.

Panama-Pacific Congress Day at the Exposition.

12:00 m. to 1:30 p. m.—Interval for luncheon.

1:30 p. m.—Clinics—continued.

TUESDAY, SEPTEMBER 7, 1915

9:00 a. m.—Reading of Papers—continued.

10:00 a. m.—Meeting of Salt Lake County Dental Society.

12:00 m. to 1:30 p. m.—Interval for luncheon.

1:30 p. m.—Clinics—continued.

7:30 p. m.—Moonlight Excursion on the Bay. Parties limited to 250. Make reservations at Entertainment Booth before 5 p. m. Monday, September 6th. Leave Crowley's Wharf, Mission Street. Fare, 50c.

WEDNESDAY, SEPTEMBER 8, 1915

9:00 a. m.—Reading of Papers—continued.

10:00 a. m.—Trip to Battleships in Bay. Giving a close and intimate view of the battleships at anchor in San Francisco Bay, landing passengers at the yacht harbor at Exposition before noon. Make reservations at Entertainment Booth before 5 p. m. Tuesday, September 7th.

Leave Crowley's Wharf, Mission Street. Parties limited to 250. Fare, 50c.

12:00 m. to 1:30 p. m.—Interval for luncheon.

1:30 p. m.—Clinics—continued.

8:00 p. m.—Special Features at the Exposition. (See daily papers for program.)

SPECIAL ANNOUNCEMENT

During the entire session of the Congress, there will be displayed on the main floor, east side, various educational, scientific and other exhibits, including a detail from the Department of the United States Army and Navy Dental Corps.

See this program, page 89, for particulars.

Congress Announcements

The *Daily Bulletin* will be issued each day from the office of the Program Committee. It will give in detail the program for that day, the names of members who have registered, and other necessary information not in the Official Program.

The telephone number of the Auditorium is Market 871. Telephone service to all floors and departments.

The Registration Booth will be on the main floor near entrance.

Lost and found articles may be registered at the Registration Booth, windows No. 1 and No. 2.

There will be a Bulletin Board on the main floor where special notices will be posted that may not be in the *Daily Bulletin* or the Official Program.

The office of the Congress will be on the 3rd floor. It will be open all day during the sessions and an assistant secretary will be in charge in the absence of the secretary.

Applications for membership, registration, programs, reservations for sightseeing trips and excursions, etc., should be made as early as possible.

Notices for the *Daily Bulletin* must be reported to the office of the Program Committee before 5 p. m. for insertion the following day.

A stenographer and typewriter will be at the service of members, at the usual rates.

Reservation has been made in the parlors of the California Building at the Exposition for our Ladies' Committee to receive and entertain informally all our guests. Cards of admission will be presented to each lady.

RAILROAD TICKET VALIDATION ANNOUNCEMENT

The points for validation of tickets are the:

Southern Pacific Ticket Offices at the Ferry Building:

In the Palace Hotel;

884 Market Street;

Southern Pacific Building at the Exposition Grounds—all in San Francisco, and

The Mole;

Sixteenth Street Station;

Thirteenth and Broadway—all in Oakland.

Owing to the volume of travel at this time, it is advised that *sleeping car reservations* for return trip be made as soon as the date of return is decided upon. Sleeping car reservations can be made at any of the above ticket offices. Validation of tickets must be made *on the date of return*.

The Information Bureau will be at windows Nos. 1 and 2 of the Registration Booth.

The Postoffice, where general postoffice business may be transacted, will be at the end of the Registration Booth.

Those cherries fairly do enclose

Of Orient pearls a double row.

Which, when her lovely laughter shows,

They look like rosebuds fill'd with snow.

—RICHARD ALLISON.



Courtesy of Sunset Magazine

Though only one or two of the Siwash braves, who had been out into civilization, had ever set eyes on a motor-car before, none of them seemed to have any fear of ours, although, strangely enough, they were as shy as deer at the sight of the camera. One young squaw was willing to take a chance, however, for she offered to pose for her picture if Billie would give her a ride in the car. He brought her down the road at a rattling clip and she not only never turned a hair, but asked him to go faster. Given an opportunity, that Siwash maiden would have made a real road-burner

List of Societies and their Officers which will meet with the Panama-Pacific Dental Congress

INTERNATIONAL DENTAL FEDERATION (F. D. I.)

Honorary President, W. B. Patterson, London, England.
President, Truman W. Brophy, Chicago, Ill.
Vice-Presidents: Harvey J. Burkhart, Batavia, N. Y.; F. Schaeffer-Stuckert, Frankfort-on-Main; M. Roy, Paris, France; W. Guy, Edinburgh; Rudolph Weiser, Vienna, Austria; Vincenzo Guerini, Naples, Italy; J. Howard Mummary, London, England; N. Etcheparaborda, Buenos Aires, Argentina; Ernst Jessen, Strassburg.
Secretary-General, Florestan Aguilar, Madrid, Spain.
Assistant Secretaries: Burton Lee Thorpe, St. Louis, Mo.; C. Van der Hoeven, The Hague, Holland; G. Villain, Paris, France; B. Landete, Madrid, Spain.
Treasurer, Edmond Rosenthal, Brussels, Belgium.

NATIONAL DENTAL ASSOCIATION

President, Donald Mackay Gallie, Chicago, Ill.
First Vice-President, Edward G. Link, Rochester, N. Y.
Second Vice-President, L. P. Dotterer, Charleston, S. C.
Third Vice-President, T. E. Turner, St. Louis, Mo.
General Secretary, Otto U. King, Huntington, Ind.
Treasurer, H. B. McFadden, Philadelphia, Pa.

CALIFORNIA STATE DENTAL ASSOCIATION

President, C. E. Post, San Francisco, Cal.
Vice-President, Lewis T. Corwin, Oakland.
Secretary and Editor, E. E. Evans, Oakland, Cal.
Treasurer, Fred J. Seiferd, San Francisco, Cal.

SOUTHERN CALIFORNIA DENTAL ASSOCIATION

President, G. Maurice Crow, Los Angeles, Cal.
First Vice-President, Wellslake D. Morse, Los Angeles, Cal.
Second Vice-President, G. C. Burbank, Long Beach, Cal.
Secretary, W. E. Sibley, Los Angeles, Cal.
Treasurer, C. J. R. Engstrom, Los Angeles, Cal.
Editor, John R. McCoy, Los Angeles, Cal.

DELTA SIGMA DELTA FRATERNITY

Supreme Grand Master, Burton Lee Thorpe, St. Louis, Mo.
Supreme Worthy Master, D. M. Gallie, Chicago, Ill.
Supreme Scribe, R. Hamill D. Swing, Philadelphia, Pa.
Supreme Treasurer, D. C. Bacon, Chicago, Ill.
Supreme Historian, Frederick C. Kemple, New York City.
Past Supreme Grand Master, W. D. Tracy, New York City.

UTAH STATE DENTAL SOCIETY

President, A. C. Wherry, Salt Lake City, Utah.
Vice-President, Harry J. Davis, Salt Lake City, Utah.
Vice-President, D. N. White, Ogden, Utah.
Secretary-Treasurer, Earl C. Fairweather, Salt Lake City, Utah.

SUPREME CHAPTER XI PSI PHI FRATERNITY

Supreme President, H. Acton Roan, Minneapolis, Minn.
Supreme Secretary-Treasurer, C. C. Markey.
Supreme Editor, C. L. Storms, Buffalo, N. Y.

SOCIETIES MEETING WITH THE DENTAL CONGRESS—*Continued*

OFFICERS OF THE ALUMNI CHAPTER OF
THE STATE OF CALIFORNIA XI PSI
PHI FRATERNITY

President, H. Edward Gedge.

Vice-President, Charles D. Gilman.

Secretary-Treasurer, Edward J. Howard.

Editor, Arthur E. Hackett.

AMERICAN SOCIETY OF ORTHODONTISTS

President, Frederick C. Kemple, New York City.

Vice-President, M. N. Federspiel, Milwaukee, Wis.

Secretary, Frank M. Casto, Cleveland, Ohio.

NATIONAL ASSOCIATION OF DENTAL
EXAMINERS

President, J. H. Wallace, Omaha, Neb.

Vice-President for the South, Wallace Wood, Jr., New Orleans, La.

Vice-President for the East, A. H. Reynolds, Philadelphia, Pa.

Vice-President for the West, Jesse Miller, Maryville, Mo.

Secretary-Treasurer, J. A. West, Des Moines, Ia.



Fairmont Hotel, San Francisco

Session of the
Scientific Foundation and Research Commission
of the
National Dental Association

Wednesday, September 1, 1915

Thursday, September 2, 1915

EXECUTIVE BOARD

| | |
|---|--|
| Weston A. Price, Chairman, Cleveland, Ohio. | Clarence J. Grieves, Secretary-Treasurer, Baltimore, Md. |
| Thomas P. Hinman, Vice-Chairman, Atlanta, Ga. | John V. Conzett, Dubuque, Iowa. |
| | Eugene R. Warner, Denver, Colo. |

MEMBERS

| | |
|--|--|
| George T. Williams, Seattle, Wash. | Henry C. Ferris, New York, N. Y. |
| *George E. Hunt, Indianapolis, Ind. | Charles Channing Allen, Kansas City, Mo. |
| W. T. Farrar, Louisville, Ky. | Frank O. Hetrick, Ottawa, Kan. |
| Percy Williams, Rutland, Vt. | Marcus L. Ward, Ann Arbor, Mich. |
| Samuel H. McAfee, New Orleans, La. | Frank L. Platt, San Francisco, Cal. |
| Edward C. Kirk, Philadelphia, Pa. | Chris S. Van Horn, Bloomsburg, Pa. |
| William Carr, New York, N. Y. | Roscoe H. Volland, Iowa City, Iowa. |
| Truman W. Brophy, Chicago, Ill. | Donald M. Gallie, President National Dental Assn. (ex-officio member), Chicago, Ill. |
| Greene V. Black, Chicago, Ill. | Otto U. King, Secretary National Dental Assn. (ex-officio member), Huntington, Ind. |
| Homer C. Brown, Columbus, O. | |
| Thomas B. Hartzell, Minneapolis, Minn. | |
| Arthur R. Melendy, Knoxville, Tenn. | |
| Edward S. Gaylord, New Haven, Conn. | |

The Scientific Foundation and Research Commission of the National Dental Association is organized for conducting exhaustive studies on various dental problems. It is supported chiefly by voluntary contributions from the dental profession.

Synopsis Reports of the Work Done in Various Departments of Research.

"Special Researches in Mouth Infections"—by Thomas B. Hartzell, M. D., D. D. S., assisted by Harold J. Leonard, D. D. S., Arthur Henrici, M. D., and Miss Ruby White, in the University of Minnesota.

"The Dental Pulp and the Peridental Membrane"—by Frederick B. Noyes, B. S., D. D. S., in the University of Illinois.

"Salivary Analysis and Dental Caries"—by Russell W. Bunting, D. D. S., assisted by

U. G. Rickert, B. S., M. A., in the University of Michigan.

"Dental Cements"—by Marcus L. Ward, D. D. S., assisted by Ralph M. McCormick, B. S., in the University of Michigan.

"The Relation of the Glands of Internal Secretion to Caries"—by Dr. William J. Gies, M. D., Ph. D., in the Columbia University.

(a) "Metallurgical Researches."

(b) "Differentiations in Mouth Infections—A Contribution to the Etiology of Pyorrhea Alveolaris"—by Weston A. Price, D. D. S., M. S. Metallurgical assistant, Frank A. Fahrenwald, E. M., M. S. Bacteriological assistant, Le Rue P. Bensing, B. A., Cleveland.
(Motion Pictures.)

*Deceased.



WHITE THUNDER

The Great Fall of the Yellowstone in one of America's magnificent national parks.



Delta Sigma

Delta Fraternity



DELTA SIGMA DELTA Fraternity originated in the Freshman class of the University of Michigan in 1882, and in March of 1883 nine men—Charles W. Howard, L. J. Mitchell, C. J. Hand, Ezra L. Kern, L. M. James, D. D. Magill, L. L. Davis, Charles P. Weinrich and Wm. Cleland became the charter members of Alpha Chapter of this, the first Greek letter Dental Fraternity.

The Supreme Chapter, composed of graduate members of subordinate chapters, was organized March 20, 1884.

The organization is made up of the following divisions:

A Supreme Chapter which governs and controls the entire membership, having the power to make or amend the Constitution and Laws.

Twenty-five Auxiliary Chapters, composed of Supreme Chapter members residing in certain central districts.

A council of deputies, composed of the official representatives of the Subordinate Chapters.

Twenty-five Subordinate Chapters located as follows:

Alpha Chapter—University of Michigan, Dental Dept., Ann Arbor, Mich.

Beta Chapter—Chicago College of Dental Surgery, Chicago, Ill.

Gamma Chapter—Harvard University, Dental Dept., Boston, Mass.

Epsilon Chapter—University of Pennsylvania, Dental Dept., Philadelphia, Pa.

Zeta Chapter—University of California, Dental Dept., San Francisco, Cal.

Eta Chapter—Northwestern University, Dental School, Chicago, Ill.

Theta Chapter—University of Minnesota, Dental Dept., Minneapolis, Minn.

Kappa Chapter—Vanderbilt University, Dental Dept., Nashville, Tenn.

Lambda Chapter—Western Reserve University, Dental Dept., Cleveland, Ohio.

Mu Chapter—Tuft's Dental College, Boston, Mass.

Nu Chapter—Kansas City Dental College, Kansas City, Mo.

Xi Chapter—Indiana Dental College, Indianapolis, Ind.

Omicron Chapter—St. Louis University, Dental Dept., St. Louis, Mo.

Pi Chapter—University of Buffalo, Dental Dept., Buffalo, N. Y.

Rho Chapter—University of Illinois, School of Dentistry, Chicago, Ill.

Sigma Chapter—University of Pittsburgh, Dental Dept., Pittsburgh, Pa.

Upsilon Chapter—Washington University, Dental Dept., St. Louis, Mo.

Phi Chapter—Colorado College of Dental Surgery, Denver, Colo.

Chi Chapter—University of Southern California, Dental Dept., Los Angeles, Cal.

Psi Chapter—North Pacific Dental College, Portland, Ore.

Omega Chapter—Creighton University, Dental Dept., Omaha, Neb.

Alpha Alpha Chapter—Georgetown University, Dental Dept., Washington, D. C.

Beta Beta Chapter—Lincoln University, Dental Dept., Lincoln, Neb.

Gamma Gamma Chapter—Iowa University, Dental Dept., Iowa City, Iowa.

Epsilon Epsilon Chapter—Louisville Dental College, Louisville, Ky.

The official organ of the Fraternity is *Desmos*, published quarterly by the Supreme Chapter.



PSI OMEGA FRATERNITY



SI OMEGA Dental Fraternity was organized in 1892 at the Baltimore College of Dental Surgery. Founded primarily as a college society, with a secret ritual, the organization spread gradually to the New York College of Dentistry and thence to the Pennsylvania College of Dental Surgery.

The Constitution and the power of the original Chapter, Alpha, proving inadequate for the growing Fraternity, a convention was called in February, 1895, and the Fraternity was launched as a National organization.

In the last twenty years Psi Omega has grown from its humble beginning to an organization consisting of forty-eight chapters. Forty-two of these are Active Chapters and twenty-six Alumni, with a total membership of seven thousand five hundred.

The object of the Fraternity is to cultivate the social qualities of its members; to surround each member with friends to whom he may turn for advice and assistance when in need, and to untiringly exert its influence for the advancement of the dental profession, in methods of teaching, of practice and of jurisprudence.

The government of the Fraternity is vested in a Grand Chapter, meeting triennially between July 1st and September 1st, and consisting of one duly elected delegate from each Subordinate Chapter. The Supreme Council is composed of three Alumni members, having power to act for the Grand Chapter when that body is not in session.

To secure by co-operation benefits and advantages out of individual reach the

official organ, *The Frater*, is published bi-monthly during the college year.

SUPREME COUNCIL.

- H. E. Friesell, A. B., D. D. S., Grand Recorder, 1206 Highland Bldg., Pittsburgh, Pa.
 Edward H. Sting, D. D. S., Editor, Tiffin, Ohio.
 J. E. Nyce, D. D. S., Business Manager, 731 Witherspoon Bldg., Philadelphia, Pa.

ACTIVE CHAPTERS.

- Alpha*—Baltimore College of Dental Surgery.
Beta—New York College of Dentistry.
Gamma—Pennsylvania College of Dental Surgery, Philadelphia. (Combined with Zeta.)
Delta—Tufts Dental College, Boston, Mass.
Epsilon—Western Reserve University, Cleveland, O.
Zeta—University of Pennsylvania, Philadelphia.
Eta—Philadelphia Dental College.
**Theta*—University of Buffalo, Buffalo, N. Y.
Iota—Northwestern University, Chicago, Ill.
Kappa—Chicago College of Dental Surgery, Chicago, Ill.
**Lambda*—University of Minnesota, Minneapolis, Minn.
Mu—University of Denver, Denver, Colo.
Nu—University of Pittsburgh, Pittsburgh, Pa.
Xi—Marquette University, Milwaukee, Wis.
Mu Delta—Harvard University Dental School.
Omicron—Louisville College of Dental Surgery.

Pi—Baltimore Medical College, Dental Department.

Beta Sigma—College of Physicians and Surgeons, Dental Department, San Francisco, Cal.

Rho—Ohio College of Dental Surgery, Cincinnati.

Sigma—Medico-Chirurgical College, Philadelphia.

Tau—Atlanta Dental College, Atlanta, Ga.

Upsilon—University of Southern California, Los Angeles, Cal.

Phi—University of Maryland, Baltimore.

Chi—North Pacific Dental College, Portland, Ore.

Psi—Ohio State University, Columbus, O.

Omega—Indiana Dental College, Indianapolis, Ind.

Beta Alpha—University of Illinois, Chicago.

Beta Gamma—George Washington University, Washington, D. C.

Beta Delta—University of California, San Francisco.

Beta Epsilon—New Orleans College of Dentistry.

Beta Zeta—St. Louis Dental College, St. Louis, Mo.

Beta Eta—Keokuk Dental College. (Defunct.)

Beta Theta—Georgetown University, Washington, D. C.

Gamma Iota—Southern Dental College, Atlanta, Ga.

Gamma Kappa—University of Michigan, Ann Arbor.

Gamma Lambda—College of Dental and Oral Surgery of New York.

Gamma Mu—University of Iowa, Iowa City.

Gamma Nu—Vanderbilt University, Nashville, Tenn.

Gamma Xi—University College of Medicine, Richmond, Va. (Combined with Gamma Omicron.)

Gamma Omicron—Medical College of Virginia, Richmond, Va.

**Gamma Pi*—Washington University, D. Dept., St. Louis, Mo.

Delta Rho—Kansas City Dental College.

Delta Tau—Wisconsin College of P. & S., Milwaukee. (Combined with Xi.)

Delta Upsilon—Texas Dental College, Houston.

Delta Phi—Western Dental College, Kansas City.

ALUMNI CHAPTERS.

New York Alumni Chapter, New York City.
Duquesne Alumni Chapter, Pittsburgh, Pa.
Minnesota Alumni Chapter, Minneapolis, Minn.

Chicago Alumni Chapter, Chicago, Ill.

Boston Alumni Chapter, Boston, Mass.

Philadelphia Alumni Chapter, Philadelphia, Pa.

New Orleans Alumni Chapter, New Orleans, La.

Los Angeles Alumni Chapter, Los Angeles, Cal.

Cleveland Alumni Chapter, Cleveland, O.

Seattle Alumni Chapter, Seattle, Wash.

Portsmouth Alumni Chapter, Portsmouth, Ohio.

Buffalo Alumni Chapter, Buffalo, N. Y.

Connecticut State Alumni Chapter, Connecticut.

Iowa State Alumni Chapter, Iowa City, Ia.

New Jersey State Alumni Chapter, New Jersey.

San Francisco Alumni Chapter, San Francisco, Cal.

Multnomah Alumni Chapter, Portland, Ore.

District of Columbia Alumni Chapter, Washington, D. C.

Ohio State Alumni Chapter, Ohio.

Anthracte Alumni Chapter, Wilkes Barre and Scranton, Pa.

Atlanta Alumni Chapter, Atlanta, Ga.

Kansas City Alumni Chapter, Kansas City, Mo.

Alabama State Alumni Chapter, Alabama.

Virginia State Alumni Chapter, Virginia.

Rocky Mountain Alumni Chapter, Denver, Colo.

National Alumni Chapter.

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*Latent.



XI PSI PHI FRATERNITY



HE Xi Psi Phi Fraternity was founded at the University of Michigan in February, 1889. The name given the organization at that time was Delta Beta Gamma, signifying "Dental Brothers' Guild." This, however, was soon changed to Xi Psi Phi.

In May, 1892, articles of association were filed in the State of Michigan for Alpha Chapter, after which the Fraternity became a national organization.

Since that time thirty-two Subordinate Chapters have been organized; seven have been disbanded for different reasons, leaving an active Chapter list of twenty-five at present.

The purpose for which the organization was formed is "to promote social unity amongst dental students generally; to improve their intellectual advantages and opportunities; to establish a fraternal feeling and brotherhood among them, and to promote moral rectitude."

The Supreme Chapter formed in 1901 is the legislative body and meets biennially. Representation is permitted all Subordinate Chapters and Alumni Associations from members chosen directly from the active membership.

The official publication of the Fraternity is the *Quarterly*, published since 1899.

The present Supreme Chapter members, constituting the Board of Directors, are as follows:

Dr. H. A. Roan, Supreme President, Minneapolis, Minn.

Dr. J. E. Schaefer, Supreme 1st Vice-President, Chicago, Ill.

Dr. R. E. Luther, Supreme 2d Vice-President, Rochester, N. Y.

Dr. C. C. Markey, Supreme Secretary-Treasurer, Chicago, Ill.

Dr. C. L. Storms, Supreme Editor, Buffalo, N. Y.

Members of Board:

Dr. A. Hoffman, Buffalo, N. Y.

Dr. D. W. Adams, Chicago, Ill.

Dr. L. M. Waugh, New York, N. Y.

Dr. V. Nillson, Minneapolis, Minn.

Dr. H. B. Pinney, Chicago, Ill.

Active membership of the Subordinate Chapters January 1, 1915, 720; Alumni membership approximately 6000.

The organization of the Alumni into a National body with State and local component parts, follows the lines of the National Dental Society. At present there are fifteen such component societies.

The National Alumni Association meets annually at the time and place of the National Dental Society meeting.

The officers of this organization for the year 1914-15 are:

President—Dr. A. J. Bush, Columbus, Ohio.

Vice-President—Dr. C. O. Simpson, St. Louis, Mo.

Secretary—Dr. M. B. Eshelman, Buffalo, N. Y.

Treasurer—Dr. F. Lowe, Rochester.

HYGIENE, DENTAL PEDAGOGICS, HISTOLOGICAL, ANTHROPOLOGICAL
AND SCHOOL CLINIC EXHIBITS

Main Floor, East Wing

New York City Department of Health Display—by H. L. Wheeler. Fifty-six pathological models (colored), and fracture cases from patients in the Bellevue and Allied Hospitals. Models from tuberculous children at the Sea Breeze Hospital, Coney Island. Models of syphilitic and cleft-palate cases. Wax models of healthy and diseased teeth (imported).

Anthropological Display—by J. Leon Williams. Models of the anthropoid ape, the Piltdown skull, and modern man.

Pedagogical Unit for Dental Colleges and Offices, Orthodontia Models—by J. P. Corley.

College exhibits from the Dental Department of the University of Paris, France, and School of Dentistry, of Lyons, France.

Models, photographs and literature from the Dental College of Bogota, Colombia, South America.

Mouth Hygiene Exhibit of the Cincinnati, Ohio, Dental Society.

Photographs and literature of the Forsyth Dental Infirmary, Boston, Mass.

United States Army Field Dental Equipment. Exhibit in charge of G. H. Casaday, Dental Surgeon, U. S. Army.

Moving pictures, entitled "Oral Health," loaned by the Oral Hygiene Committee of the Dental Society of the State of New York.

Stereoptican views on Oral Hygiene and Pathological Subjects, from the New York City Department of Health.

Exhibits by Dental Fraternities.

Space for the Alumni Association of the Dental Department of the University of California.

U. S. Navy Dental Corps Exhibit.

Nor love, nor honor, wealth nor pow'r,
Can give the heart a cheerful hour
When health is lost. Be timely wise;
With health all taste of pleasure flies.

—GAY, *Fables*, Pt. 1.



The football statue at the University of California

Program of Papers by Sections

SECTION I

Anatomy—Physiology—Histology

Meeting Place, Third Floor, West Wing

Committee

I. NORMAN BROOMELL, Chairman, Philadelphia, Pa.
W. H. G. LOGAN, Vice-Chairman, Chicago, Ill.
MALCOLM GODDARD, Secretary, San Francisco, Cal.

Wednesday, September 1, 1915, 9:00 a. m.

Address—by the Chairman, I. Norman Broomell.

Paper—"The Practical Application of the Histology of the Peridental Membrane"—by F. C. Friesell, Pittsburg, Pa.

Discussed by Leuman M. Waugh, New York City; George T. Williams, Seattle, Wash.; and Arthur D. Black, Chicago, Ill.

Paper—"Research on the Resistance of the Red Corpuscles of the Blood of the Human Gums (Normal and Pathological) to the Diluted Salt Solutions"—by Arigo Piperno, Rome, Italy.

Discussed by—(Names not received).

Paper—"A Study on the Minute Structures of Dentine, Especially on the Relation between the Dentinal Fibrils and Tubules" by Kanae Hanazawa.

Saturday, September 4, 1915, 9:00 a. m.

Paper—"Sinuses of the Head"—by Arthur E. Burns, Seattle, Wash.

Discussed by—(Names not received).

Paper—"Resistance and Dental Diseases"—by Percy R. Howe, Boston, Mass.

Discussed by—(Names not received).

Paper—"Changes Produced in the Circulation by Nitrous Oxid—Oxygen"—by Theodore D. Casto, Philadelphia, Pa.

Discussed by—(Names not received).

Monday, September 6, 1915, 9:00 a. m.

Paper—"Anomalies in Dental Pulp Structure and Their Relation to Clinical Work"—by V. A. Latham, Chicago, Ill.

Discussed by J. R. Callahan; M. L. Rhein, New York.

Paper (illustrated)—Brief synopsis of Paper entitled, "Investigation of Mottled Teeth; an Endemic Affection of the Enamel of the Teeth Not Heretofore Known"—by Frederick S. McKay, Colo-

rado Springs, Colo., in collaboration with G. V. Black, Chicago, Ill.

Discussed by I. Norman Broomell, Philadelphia, Pa.; Frederick B. Noyes, Chicago, Ill.

Paper—"The Evolution and Development of the Mandible"—by Martin Dewey, Kansas City, Mo.

Discussed by—(Names not received).

SECTION II

Etiology, Radiography, Pathology and Bacteriology

Meeting Place, Third Floor, West Wing

Committee

FREDERICK BOGUE NOYES, Chairman, Chicago, Ill.
R. H. HOFHEINZ, Vice-Chairman, Rochester, N. Y.
W. H. RENWICK, Secretary, Sacramento, Cal.

Tuesday, August 31, 1915, 9:00 a. m.

Address — by the Chairman, Frederick Bogue Noyes.

Paper—"The Value of Bacterial Vaccines in the Treatment of Pyorrhea"—by George Bailey Harris, Detroit, Mich.

Discussed by—(Names not received).

Paper—"Radiographic Studies of the Antrum"—by Martin Dewey and — Skinner, Kansas City, Mo.

Discussed by—(Names not received).

Wednesday, September 1, 1915, 9:00 a. m.

Paper—"Radiography in Dentistry and Orthodontia"—by A. H. Ketcham and Ira C. Brownlie, both of Denver, Colo.

Discussed by—(Names not received).

Paper—"Differentiation of the Radiographical Appearance of Normal and Abnormal

Tissues as an Aid to Dental Diagnosis"—by Noboru Teruuchi.

Paper—"The Etiology of Dental Abscess, Acute and Chronic"—by Thos. B. Hartzell, Minneapolis, Minn.

Discussed by—(Names not received).

Tuesday, September 7, 1915, 9:00 a. m.

Paper (illustrated)—"Oral Sepsis as Related to Systemic Diseases"—by W. H. Strietmann, Oakland, Cal.

Discussed by—(Names not received).

Paper—"Concerning Mouth Infections as Related to Systemic Disease"—by S. Mark White, Minneapolis, Minn.

Discussed by—(Names not received).

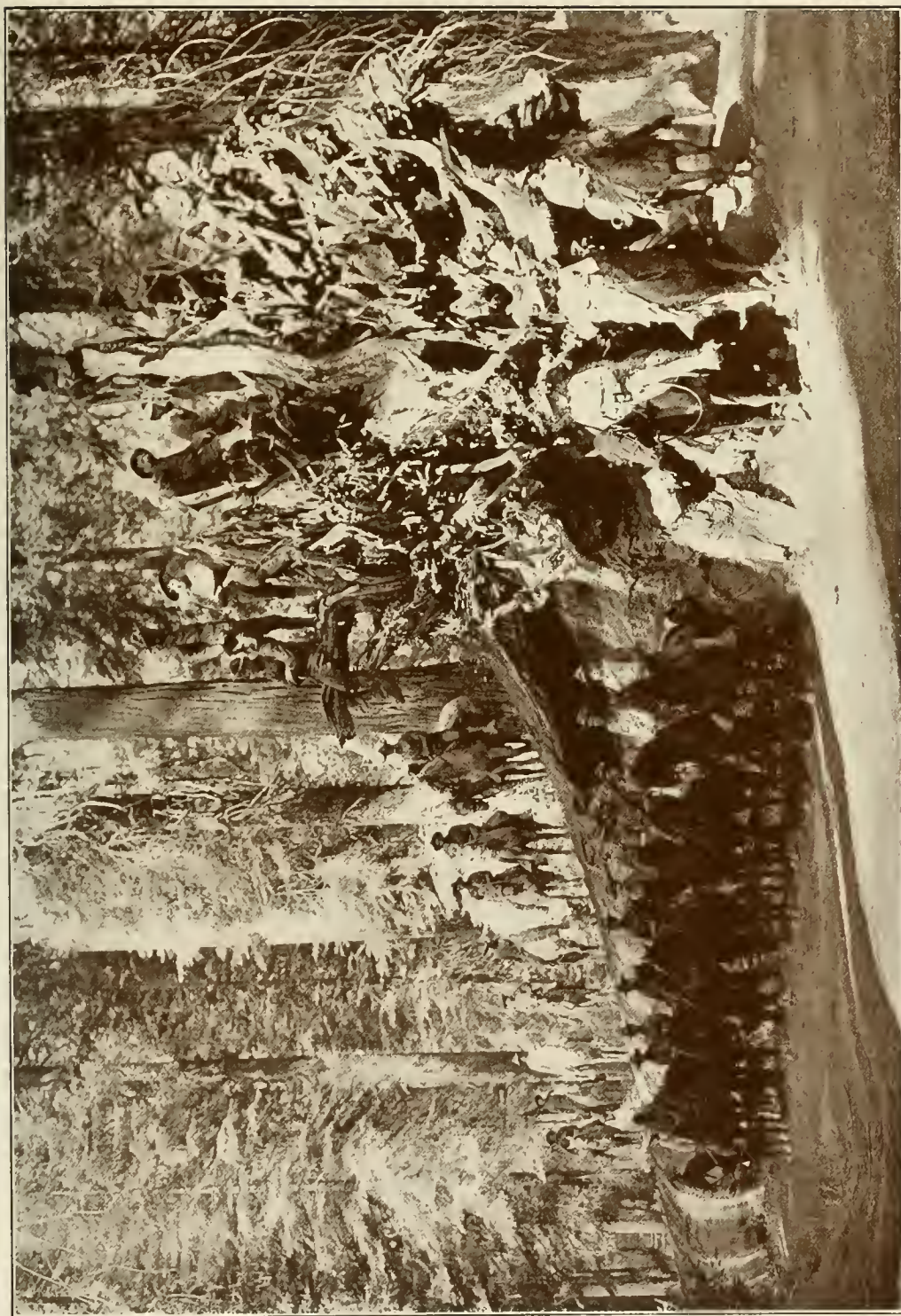
Wednesday, September 8, 1915, 9:00 a. m.

Paper—"Radiographic Study of the Attachment of Teeth of Lower Animals"—by Martin Dewey, Kansas City, Mo.

Discussed by—(Names not received).

Paper—"Pathological Conditions Found in the Mouths of Some Children"—by M. Evangeline Jordan, Los Angeles, Cal.

Discussed by Truman W. Brophy, Chicago, Ill., and H. G. Chappel, Oakland, Cal.



The "Fallen Monarch" of Mariposa Grove would supply twenty-four miles of board fence six feet high. Roughly speaking, it contains 50,000 cubic feet of lumber, and weighs very nearly three million pounds.

SECTION III

Chemistry and Metallurgy

Meeting Place, Third Floor, West Wing

Committee

M. L. WARD, Chairman, Ann Arbor, Mich.
HENRY H. BOOM, Vice-Chairman, Philadelphia, Pa.
H. A. TUCKEY, Secretary, San Francisco, Cal.

Tuesday, August 31, 1915, 9:00 a. m.

- Address—by the Chairman, Marcus L. Ward.
- Paper—"Some Refractive Materials Used in Dentistry"—by Guy S. Millberry, San Francisco.
- Discussed by John E. Gurley, San Francisco.
- Paper—"The Effect of Heat on Fillings, Crowns, Bridges, Dentures, Etc., in the Oral Cavity, as Demonstrated in the Reduction to Ashes of the Human Body by Incineration"—by Louis Ottofy, Manila, P. I.
- Discussed by—(Names not received).

Wednesday, September 1, 1915, 9:00 a. m.

- Paper—"Affinity of Metals for Each Other in the Molten Condition, as Shown in Platinum and Lead, and This Principle Applied to Making Solders"—by A. P. Fellows, Philadelphia, Pa.
- Discussed by—(Names not received).
- Paper—"An Investigation of the Character of the Various Dental Cements"—by Marcus L. Ward, Ann Arbor, Mich.
- Discussed by—(Names not received).
- Paper—"Acidimetric Study of the Saliva and Its Relation to Diet and Caries"—by John A. Marshall, Berkeley, Cal.
- Discussed by—(Names not received).

SECTION IV

Oral Hygiene and Prophylaxis

Meeting Place, Third Floor, West Wing

Committee

HERBERT L. WHEELER, Chairman, New York, N. Y.
W. W. BELCHER, Vice-Chairman, Rochester, N. Y.
ROBERT W. HALL, Secretary, Salt Lake City, Utah

Tuesday, August 31, 1915, 9:00 a. m.

- Address—by the Chairman, Herbert L. Wheeler.
- Paper—"Dentistry in Public Institutions (Insane)"—by Frederick Keys, Boston, Mass.
- Discussed by—(Names not received).
- Paper—"The Care of Children's Teeth"—by Mattie K. Weyman, Seattle, Wash.
- Discussed by—(Names not received).

Wednesday, September 1, 1915, 9:00 a. m.

Paper—"The Value of Oral Hygiene Lectures to the Public and the Responsibilities of the Dental Profession in Relation to this Work"—by Thaddeus P. Hyatt, New York City.

Discussed by—(Names not received).

Paper—"The Next Steps in the Develop-

ment of Oral Hygiene Among School Children"—by Edwin S. Brown, New York City.

Discussed by—(Names not received).

Paper—"Municipal Clinics"—by Matthew Carney, New York City.

Friday, September 3, 1915, 9:00 a. m.

Paper—"The Educational Value of Oral Hygiene in the Army"—by Edwin P. Tignor, U. S. A.

Discussed by—(Names not received).

Paper—"Report on Dental Clinical Work in the Hospitals, Schools and Prisons in Manila, P. I."—by Louis Ottofy, Manila, P. I.

Discussed by—(Names not received).

Paper—"Making the Exposed Tooth Surfaces Slippery—An Appeal to General Practitioners"—by Leander Van Orden, San Francisco, Cal.

Discussed by J. M. Whitney, Honolulu, T. H.; Frank Skinner, Chicago, Ill.

Saturday, September 4, 1915, 9:00 a. m.

Paper—"The Agencies in Ohio Co-operating in a General Oral Hygiene Educational Campaign"—by Homer C. Brown, Columbus, Ohio.

Discussed by—(Names not received).

Paper—"Hygiene of the Bucco-Dental Cavity as an Important Auxiliary for the Prophylaxis of Incipient Bucco-Pulmon-

ary Tuberculosis"—by Ernesto A. Dam, Lima, Peru.

Discussed by—(Names not received).

Paper—"The Importance of Mouth Hygiene During Infancy and Early Childhood"—by Horace Howe, Boston, Mass.

Discussed by—(Names not received).

SECTION V

Materia Medica and Therapeutics

Meeting Place, Fourth Floor, West Wing

Committee

J. P. BUCKLEY, Chairman, Chicago, Ill.
CARL D. LUCAS, Vice-Chairman, Indianapolis, Ind.
FRANK C. PEARN, Secretary, Portland, Ore.

Thursday, September 2, 1915, 9:00 a. m.

Address—by the Chairman, J. P. Buckley.

Paper—"Pain, Its Significance and Value as a Diagnostic Symptom, Its Advantages and Disadvantages, and the Importance of Its Alleviation and Prevention"—by E. T. Loeffler, Ann Arbor, Mich.

Discussed by J. V. Conzett, Dubuque, Iowa; H. B. Tileston, Chicago, Ill.

Paper—"Superstitions of Dental Medicine"—by Garrett Newkirk, Pasadena, Cal.

Discussed by G. H. Walker, Los Angeles, Cal.; Frank I. Shaw, Seattle, Wash.



How small and squat the cabin looks! Yet seventy-five people can dine in it at once. The vast size of the trees dwarfs the house. "Tongues in Trees," said Shakespeare. What stirring stories could these ancients tell from their five thousand years of world watching.

Monday, September 6, 1915, 9:00 a. m.

Paper (illustrated)—"Conductive Anesthesia"—by Arthur E. Smith, Cleveland, Ohio.

(The significance of traumatic and emotional shock. Essential factors of nerve blocking. Reaching the goal of shockless operations. The paper will be illustrated by stereopticon slides, which will show the detailed technique of novocain-suprarenin nerve blocking.)

Discussed by F. B. Moorehead, Chicago, Ill.; J. P. Henahan, Cleveland, Ohio.

Paper—"Surgery of Chronic Alveolar Abscesses"—by J. F. Biddle, Pittsburg, Pa.

Discussed by W. H. G. Logan, Chicago, Ill.; T. P. Hinman, Atlanta, Ga.

Paper—"Bad Root Canal Work—What Shall We Do About It?"—by Howard R. Raper, Indianapolis, Ind.

Discussed by C. N. Johnson, Chicago, Ill.; R. Ottolengui, New York, N. Y.

SECTION VI

Oral Surgery

Meeting Place, Fourth Floor, West Wing

Committee

TRUMAN W. BROPHY, Chairman, Chicago, Ill.

ADOLPH BERNHART BAER, Vice-Chairman, San Francisco, Cal.

E. S. BARNES, Secretary, Washington

Tuesday, August 31, 1915, 9:00 a. m.

Address—by the Chairman, Truman W. Brophy, Chicago, Ill.

Paper—"Necrosis of the Maxillary Bones"—by Henry Sage Dunning, New York, N. Y.

Discussed by—(Names not received).

Paper—"Radium Treatment in Carcinoma of the Mouth"—by Oscar A. Strauss, Milwaukee, Wis.

Discussed by—(Names not received).

Thursday, September 2, 1915, 9:00 a. m.

Paper—"A Few Thoughts on the Comparative Anatomy of the Maxillary Sinus, Its Relation to the Teeth, Mandibular Articulation and Alimentary System"—by Mathew H. Cryer, Philadelphia, Pa.

Discussed by—(Names not received).

Paper—"The Surgical Treatment of Con-

genital Cleft Palate"—by Chas. H. Oakman, Detroit, Mich.

Discussed by—(Names not received).

Paper—"The X-Ray in Oral Surgery"—by Howard R. Raper, Indianapolis, Ind.

Discussed by—(Names not received).

Friday, September 3, 1915, 9:00 a. m.

Paper—"Regeneration of Bone"—by Thos. B. Hartzell, Minneapolis, Minn.

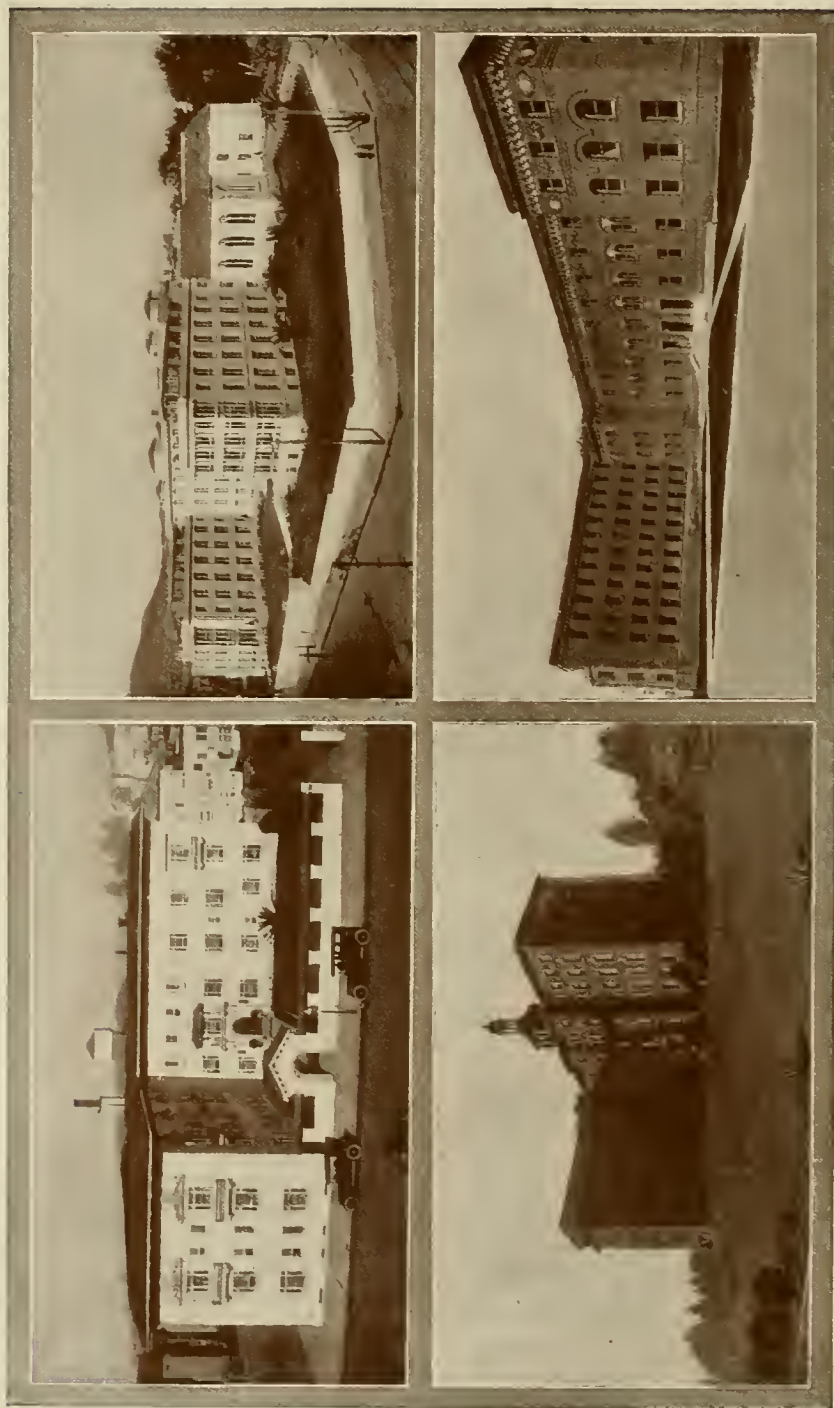
Discussed by—(Names not received).

Paper—"Surgical Treatment of the Antrum of Highmore"—by Adolph B. Baer, San Francisco, Cal.

Discussed by—(Names not received).

Paper—"Interdependence of the Rhinologist and Oral Surgeon"—by Thomas E. Carmody, Denver, Colo.

Discussed by—(Names not received).



Adler Sanitarium
German Hospital

St. Luke's Hospital
One of the Seven Wings of City and County Hospital

Tuesday, September 7, 1915, Continued

Paper—"On Shot Fractures of Jaw Bones"
—by Rudolph Weiser, Vienna, Austria.

Discussed by—(Names not received).

Paper—"The Surgical Treatment of Trigeminal Neuralgia"—by Harry M. Sherman, San Francisco, Cal.

Discussed by—(Names not received).

Paper—"Chronic Peridental Infections—
The Value of Blood Examination as a

Diagnostic Aid"—by W. H. G. Logan, Chicago, Ill.

Truman W. Brophy will read a paper before the Surgical Section of the San Francisco County Medical Society in the evening on the above date, at the rooms of the Society in the Butler Building, Stockton and Geary Streets.

An invitation to attend is extended to the dental profession.

Wednesday, September 8, 1915, 9:00 a. m.

Paper—"General Infections of Oral Origin"—by Harry P. Carlton, Oakland, Cal.

Discussed by—(Names not received).

Paper—"A Case of Acromegaly"—by Pehr Gadd, Helsingfors, Finland.

Discussed by—(Names not received).

Paper—"Osteoplastic Lengthening of the Lower Jaw in Micronathy According to von Eiselberg's Method"—by Hj. von Bornsdorff, Helsingfors, Finland.

Discussed by—(Names not received).

Paper—"The Therapeutics of Radicular and Follicular Dental Cysts"—by Rudolf Weiser, Vienna, Austria.

Discussed by—(Names not received).

Paper—"Etiology and Treatment of Oral Tumors"—by Fulton Risdon, Toronto, Canada.

Discussed by—(Names not received).

Paper—"Nerve Blocking; Its Use in Operative Dentistry and Oral Surgery"—by B. R. East, Detroit, Mich.

Discussed by—(Names not received).

Under the direction of the Committee on Oral Surgery, the following men will operate during the congress at hospitals to be selected and named later. Announcement of these clinics will be in the *Daily Bulletin*, giving all details as to place, time and operation.

E. S. Barnes, Seattle.

Henry Sage Dunning, New York.

Adolph B. Baer, San Francisco.

W. H. G. Logan, Chicago.

A. T. Rasmussen, La Crosse, Wis.

W. L. Shearer, Omaha.

H. C. Miller, Portland, Ore.

Truman W. Brophy, Chicago.

M. N. Federspiel, Milwaukee.

SECTION VII

Orthodontia

Meeting Place, Fourth Floor, West Wing

Committee

J. LOWE YOUNG, Chairman, New York, N. Y.
ROBERT DUNN, Vice-Chairman, San Francisco, Cal.
JAMES DAVID MCCOY, Secretary, Los Angeles, Cal.

Thursday, September 2, 1915, 9:00 a. m.

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| Address—by the Chairman, J. Lowe Young, New York, N. Y. | Discussed by F. M. Casto, Cleveland, Ohio; C. W. Smith, Pasadena, Cal. |
| Paper (illustrated)—“The Use of the Angle-Young Lock and Auxiliary Wires in Conjunction with the New Angle Appliance”—by A. P. Rogers, Boston, Mass. | Paper (illustrated)—“What Is the Line of Occlusion?”—by R. Ottolinguì, New York, N. Y. Discussed by F. Kemple, New York, N. Y.; F. McKay, Colorado Springs, Colo. |

Friday, September 3, 1915, 9:00 a. m.

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| Paper (illustrated)—“Further Research on the Influence of the Occlusal Forces on the Development of the Skull”—by L. W. Baker, Boston, Mass. | Paper—“An Attempt Towards Automatic Correction”—by L. Subirana, Madrid, Spain. Discussed by H. C. Pollack, Kansas City; S. P. Cameron, Philadelphia, Pa. |
| Discussed by M. H. Eryer, Philadelphia, Pa.; F. B. Noyes, Chicago, Ill. | Paper (illustrated)—“A Study of the Abnormal Overbite”—by H. A. Pullen, Buffalo, N. Y. Discussed by James D. McCoy, Los Angeles, Cal.; W. J. Brady, Kansas City, Mo. |
| Paper (illustrated)—“A Method of Surveying and Mapping the Dental Apparatus”—by F. L. Stanton and Dipl.-Ing. Rudolph Hanan. | |
| Discussed by Martin Dewey, Kansas City. | |

Monday, September 6, 1915, 9:00 a. m.

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|---|---|
| Paper—“Some Practical Uses in Dental Practice for Tungsten and Molybdenum”—by W. A. Price, Cleveland, Ohio. | Discussed by E. H. Morehouse, Spokane, Wash.; John R. McCoy, Los Angeles, Cal. |
| Discussed by W. E. Wilson, San Diego, Cal.; D. W. Flint, Pittsburg, Pa. | Paper—“The Advantage of Early Treatment”—by M. T. Watson, Detroit, Mich. |
| Paper (illustrated)—“Dr. E. H. Angle’s New Orthodontic Appliances”—by A. H. Ketcham, Denver, Colo. | Discussed by B. Frank Gray, Colorado Springs, Colo.; W. H. Bolton, Seattle, Wash. |

SECTION VIII

Operative Dentistry

Meeting Place, Fourth Floor, West Wing

Committee

JOHN SAYRE MARSHALL, Chairman, Berkeley, Cal.

H. E. FRIESELL, Vice-Chairman, Pittsburg, Pa.

E. A. TRIPP, Secretary, Salt Lake City, Utah.

Tuesday, August 31, 1915, 9:00 a. m.

Address—by the Chairman, John Sayre Marshall.

Paper—"Zonotherapy" (with demonstrations)—by W. H. Fitzgerald, Hartford, Conn.

Discussed by Blake A. Sears, Hartford, Conn.

Paper (illustrated)—"History of Operative Dentistry"—by Charles McManus, Hartford, Conn.

Discussed by (Names not received).

Paper—"Auto-Analgesia and Anesthesia"—by S. Towle, Fall River, Mass.

Discussed by—(Names not received).

Wednesday, September 1, 1915, 9:00 a. m.

Paper—"Some Prevalent Errors in the Esthetic and Technical Phases of Operative Practice"—by Clarence O. Simpson, St. Louis, Mo.

Discussed by John V. Conzett, Dubuque, Iowa; W. D. Tracy, New York, N. Y.; F. B. Kremer, Minneapolis, Minn.

Paper—"Non-Cohesive Gold Foil as a Filling Material"—by F. W. Bliss, Santa Cruz.

Discussed by W. A. L. Knowles, San Fran-

cisco; Leander Van Orden, San Francisco.

Paper—"The Sharpening of Instruments"—by R. B. Giffen, Sacramento, Cal.

Discussed by—(Names not received).

Paper—"Operative Procedure in Relation to Dental Caries and Diseases of the Investing Tissues"—Arthur D. Black, Chicago, Ill.

Discussed by—(Names not received).

Thursday, September 2, 1915, 9:00 a. m.

Paper—"The Plantation of Teeth"—by M. J. Congdon, Berkeley, Cal.

Discussed by—(Names not received).

Paper—"Extracting of Deep-Lying Roots of Teeth in Cases of Hemophilia and Gravidity" (according to a method of his own)—by Th. Weber, Helsingfors, Finland.

Discussed by—(Names not received).

Paper—"The Recessional Lines of the Pulp in Their Relation to Operative Dentistry"—by H. G. Chappel, Oakland, Cal.

Discussed by Geo. T. Williams, Seattle, Wash.; G. M. Crow, Los Angeles, Cal.

Paper—"Electricity as an Aid to Diagnosis"—by A. C. Wherry, Salt Lake City, Utah.

Discussed by—(Names not received).



IN THE RED FOREST

Giant Redwoods, the California Sequoias, found nowhere else in the world, in the Santa Cruz Mountains near San Francisco, whose folk-lore is largely fish stories and whose knights and ladies ride on gasoline steeds over State Highways.

Friday, September 3, 1915, 9:00 a. m.

Paper—"Informal Talk on Inlays"—by E. S. Tracy, Boston, Mass.

Discussed by—(Names not received).

Paper—"Root Canals, Their Treatment, Preparation and Filling"—by F. W. Gethro, Chicago, Ill.

Discussed by—(Names not received).

Paper—"Anoci Association in Dental Op-

erations"—by Richard Reithmiller, Philadelphia, Pa.

Discussed by—(Names not received).

Paper—"System Versus Empirical Methods in Operative Procedure"—by Fred E. Hart, San Francisco, Cal.

Discussed by Arthur D. Black, Chicago, Ill.; H. E. Friesell, Pittsburg, Pa.

Saturday, September 4, 1915, 9:00 a. m.

Paper (illustrated) — "Restoration of the Masticatory Functions of Molars and Bicuspids with Carved Gold Inlays"—by R. Ottolengui, New York City.

Discussed by A. H. Ketcham, Denver, Colo.; T. H. Hinman, Atlanta, Ga.

Paper (illustrated) — "Technique in the Treatment of Pulp, Root Canal, and Periapical Areas"—by M. L. Rhein, New York City.

Discussed by—(Names not received).

Paper—"An Ideal Cement for Stopping Root Canals"—by Vincenzo Guerini, Naples, Italy.

Discussed by R. Ottolengui, New York, N. Y.

Paper—"Peridental Anesthesia, Intraosseous Method"—Frank L. Platt, San Francisco, Cal.

Discussed by Harry P. Carlton, Oakland, Cal.; George N. Hein, San Francisco, Cal.

Monday, September 6, 1915, 9:00 a. m.

Paper—"The Successful Scientific Treatment of Peridental Diseases"—T. Sydney Smith, San Francisco, Cal.

Discussed by John S. Marshall, San Francisco; H. G. Chappel, Oakland, Cal.

Paper—"Those Having Pyorrhea Alveolaris Can Be Cured, But None of Our Patients Need Have This Disease"—Robin Adair, Atlanta, Ga.

Discussed by Frank C. Pague, San Francisco, Cal.; E. A. Lundy, Los Angeles, Cal.; Austin F. James, Chicago, Ill.

Paper—"Pyorrhea Alveolaris, Showing the Pathological Changes Occurring in the Alveolus, Based on Microscopic Observation"—by Frederick Hecker, Kansas City, Mo.

Discussed by Austin F. James, Chicago, Ill.; Thomas B. Hartzell, Minneapolis, Minn.; Louis Meisburger, Buffalo, N. Y.

Paper—"Emetin Hydrochlorid and Autogenous Vaccines in the Treatment of Pyorrhea Alveolaris"—by C. E. Frasier, Kansas City, Mo.

Discussed by—(Names not received).

Tuesday, September 7, 1915, 9:00 a. m.

Paper—"Arthritis Deformans Due to Pyorrhea Alveolaris and Faulty Bridge Work"—by Harry A. Goldberg, New York, N. Y.

Discussed by Carolyn Rosenberg, New York, N. Y.; Harry Sherman, San Francisco, Cal.

Tuesday, September 7, 1915, Continued

Paper—"Mental and Co-operative Prophylaxis"—by C. Smith Long, Portland, Ore.

Discussed by Claude Adams, Portland, Ore.; J. C. Jones, Portland, Ore.

Paper—"Pyorrhea Alveolaris"—by John S. Engs, Oakland, Cal.

Discussed by—(Names not received).

Paper—"Emetin vs. Surgery in the Treatment of Pyorrhea"—by Thomas B. Hartzell, Minneapolis, Minn.

Discussed by John V. Konzett, Dubuque, Iowa.

Wednesday, September 8, 1915, 9:00 a. m.

Paper—"Pyorrhea and the Emetin Treatment"—by H. I. Horner, Richmond, Cal.

Discussed by T. Sydney Smith, San Francisco, Cal.; Henry Miller, Sacramento, Cal.

Paper—"The Endameba Buccalis as Seen Through the Microscope" (illustrated by moving-picture film and lantern)—by H. Page Bailey, Los Angeles, Cal.

Discussed by Frederick Bogue Noyes, Chicago, Ill.; T. Sydney Smith, San Francisco, Cal.

Paper—"The Technique and Instrumentation in Prophylaxis and Pyorrhea" (illustrated by moving-picture film)—by Maxwell M. Dixon, Los Angeles.

Discussed by Frank C. Pague, San Francisco, Cal.; Harry C. Peters, San Francisco, Cal.

SECTION IX

Prosthesis

Meeting Place, Fourth Floor, West Wing

Committee

ELLISON HILLYER, Chairman, Brooklyn, N. Y.
F. W. HERGERT, Vice-Chairman, Seattle, Wash.
C. O. EDWARDS, Secretary, Oakland, Cal.

Saturday, September 4, 1915, 9:00 a. m.

Address—by the Chairman, Ellison Hillyer.

Paper—"Impression Material and Impressions"—by George H. Wilson, Cleveland, Ohio.

Discussed by F. W. Hergert, Seattle, Wash.; C. J. R. Engstrom, Los Angeles, Cal.

Paper—"Artificial Restorations in Palatal Defects"—by V. E. Mitchell, New York, N. Y.

Discussed by W. H. O. McGehee, Cincinnati, Ohio; H. S. Haslett, Pittsburg, Pa.; Henry S. Dunning, New York, N. Y.

Paper—"Sensible Porcelain Crowns"—by J. Melville Thompson.

Discussed by—(Names not received).

Paper—"Principles of Kitami's Rubber Plate Work"—by Yukimasa Kitami.

Monday, September 6, 1915, 9:00 a. m.

Paper—"Technique for Making Impressions and Models for the Construction of Artificial Dentures" (each step taken to be demonstrated by motion pictures)—by W. A. Giffen, Detroit, Mich.

Discussed by—(Names not received).

Paper—"Crown and Bridge"—by H. J. Goslee, Chicago, Ill.

Discussed by—(Names not received).

Paper—"Some Fundamental Things in Dental Prosthesis"—by J. Leon Williams, London, England.

Discussed by—(Names not received).

Paper—"The Normal Arch in Prosthodontia"—by J. Leon Williams, London, Eng.

Discussed by (Names not received).

Tuesday, September 7, 1915, 9:00 a. m.

Paper—"A Plea for a Better Understanding of the Morphology of the Human Face as Applied to Dental Prosthesis"—by Joseph Nalin, Montreal, Canada.

Discussed by—(Names not received).

Paper—"Some Phases of Vulcanite Work"—by H. S. Haslett, Pittsburg, Pa.

Discussed by C. J. R. Engstrom, Los Angeles, Cal.; Justin E. Nyce, Philadelphia, Pa.; Edward Kennedy.

Paper—"Comparative Crowns and Bridges"—by W. O. Hulick, Cincinnati, Ohio.

Discussed by H. J. Goslee, Chicago, Ill.; James Libbey, Pittsburg, Pa.; Hugh McMillan, Roseville, Ill.

Paper—"Prehistoric Man, with Special Reference to His Jaws and Teeth"—by J. Leon Williams, London, Eng.

Discussed by—(Names not received).

Wednesday, September 8, 1915, 9:00 a. m.

Paper—"Some Grave Errors in the Practice of Crown and Bridge Work"—by Vincenzo Guerini, Naples, Italy.

Discussed by A. W. Jarman, Philadelphia, Pa.

Paper—"Simple Face Bow, for Taking the Anterior-Posterior Length of the Jaw"—by Alexander Manhood, Santiago, Chile.

Discussed by—(Names not received).

Paper—"Home-Made Interchangeable Teeth for Crown and Bridge Work"—by Alexander Manhood, Santiago, Chile.

Discussed by—(Names not received).

Paper—"The Mechanical Correction of Cleft Palate"—by Calvin S. Case, Chicago, Ill.

Discussed by—(Names not received).

This is the way that physicians mend or end us,
Secundum artem: but although we sneer
In health—when ill, we call them to attend us,
Without the least propensity to jeer.
—BYRON, Don Juan.



Congress had reached into the peaks of the Rocky Mountains and, drawing about equally from the Blackfeet Indian Reservation and the forest reserve, had created a new national park containing fifteen hundred amazing square miles. Yet all but one man expected the park to remain terra incognita for many, many years.

SECTION X

Education, Nomenclature, Literature, History, Legislation

Meeting Place, Fourth Floor, West Wing

Committee

C. N. JOHNSON, Chairman, Chicago, Ill.

HOMER C. BROWN, Vice-Chairman, Columbus, Ohio.

HENRY C. FIXOTT, Secretary, Portland, Ore.

Thursday, September 2, 1915, 9:00 a. m.

Address—by the Chairman, C. N. Johnson,
Chicago, Ill.

—by Herbert L. Wheeler, New York,
N. Y.

Paper—"The Present Status of Dentistry
in the Philippines"—by Louis Ottofy,
Manila, P. I.

Discussed by—(Names not received).

Discussed by—(Names not received).

Paper (illustrated)—"Ex-Presidents of the
American, Southern and National Dental
Associations"—by J. P. Marshall.

Paper—"Possible Reforms in Our Litera-
ture, Both Periodical and Text-Book"

Discussed by—(Names not received).

Friday, September 3, 1915, 9:00 a. m.

Paper—"Some Suggestions for Securing
Adequate and Uniform Dental Legisla-
tion"—by Homer C. Brown.

Discussed by—(Names not received).

Paper—"Commercialized Education and
the 'Itinerant Instructor'"—by Herbert
J. Samuels.

Discussed by Guy S. Millberry, San Fran-
cisco, Cal.

Paper—"Preliminary Educational Qualifi-
cations for Entrance to Dental Colleges"
by L. L. Barber, Toledo, Ohio.

Discussed by Herbert C. Miller, Portland,
Ore.; Millard Holbrook, Portland, Ore.

Paper—"Aggressiveness and Protection in
Dental Publicity"—by Pearson Du Bose,
Columbia, S. C.

Discussed by—(Names not received).

Saturday, September 4, 1915, 9:00 a. m.

Paper—"Dental Literature"—by Garrett
Newkirk, Pasadena, Cal.

Discussed by—(Names not received).

Paper—"Report on Dental Clinical Work
in the Hospitals, Schools and Prisons in
Manila, P. I."—by Louis Ottofy, Manila.

Discussed by—(Names not received).

Paper—"An Efficacious Means of Teach-
ing Dental Students the Anatomy of the
Teeth and Alveolus"—by Vincenzo Gue-
rini, Naples, Italy.

Paper—"The Life and Works of Guisep-
pangelo Fonzi"—by Vincenzo Guerini,
Naples, Italy.

Discussed by—(Names not received).

Tuesday, September 7, 1915, 9:00 a. m.

Paper—"The Development of Dental Service in the Navy"—by Emory A. Bryant, U. S. Navy.

Discussed by—(Names not received).

Paper—"Nomenclature"—by Arthur D. Black, Chicago, Ill.

Discussed by—(Names not received).

Paper—"Dentistry at Penal Institutions" (The Dental Department at San Quentin Prison)—by F. V. Simonton, San Quentin.

Discussed by S. S. Stanley, San Quentin; Burt Ogburn, Phoenix, Ariz.

Wednesday, September 8, 1915, 9:00 a. m.

Paper—"An Office Building for Dentists"—by C. W. Dickey (architect), Oakland, Cal.

Discussed by Joseph Loran Pease, Oakland, Cal.

Paper—"Organization of the Dental Corps

of the United States Army"—by G. H. Casaday, U. S. Army.

Discussed by—(Names not received).

Paper—"Dental Society Organizations"—by E. S. McCord, Seattle, Wash.

Discussed by—(Names not received).

For cleanliness of body was ever esteemed to proceed from a due reverence to God, to society, and to ourselves.—BACON, Advancement of Learning.



Echo Lake, above Castle Crag, and the Sacramento Canyon

Daily Program of Papers

Tuesday, August 31, 1915, 9:00 a. m.

- | | |
|---|---|
| Address, Frederick Bogue Noyes, Sec. II. | Address, Herbert L. Wheeler, Sec. IV. |
| "The Value of Bacterial Vaccines in the Treatment of Pyorrhea," George Bailey Harris, Sec. II. | "Care of Children's Teeth," Mattie K. Weyman, Sec. IV. |
| "Radiographic Studies of the Antrum," Martin Dewey and Frank H. Skinner, Sec. II. | Address, Truman W. Brophy, Sec. VI. |
| Address, Marcus L. Ward, Sec. III. | "Necrosis of the Maxillary Bones," Henry Sage Dunning, Sec. VI. |
| "Some Refractive Materials Used in Dentistry," Guy S. Milberry, Sec. III. | "Radium Treatment in Carcinoma of the Mouth," Oscar A. Strauss, Sec. VI. |
| "The Effect of Heat on Fillings, Crowns, Bridges, Dentures, Etc., in the Oral Cavity, as Demonstrated in the Reduction to Ashes of the Human Body by Incineration," Louis Ottogy, Sec. III. | Address, John Sayre Marshall, Sec. VIII. |
| "Dentistry in Public Institutions (Insane)," Frederick Keys, Sec. IV. | "Zonatherapy" (with demonstration), W. H. Fitzgerald, Sec. VIII. |
| | "History of Operative Dentistry" (illustrated), Charles McManus, Sec. VIII. |
| | "Auto - Analgesia and Anesthesia," S. Towle, Sec. VIII. |

Wednesday, September 1, 1915, 9:00 a. m.

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|--|--|
| Address, I. Norman Broomell, Sec. I. | and Lead, and this Principle Applied to Making Solder," A. P. Fellows, Sec. III. |
| "The Practical Application of the Histology of the Peridental Membrane," F. C. Friesell, Sec. I. | "The Value of Oral Hygiene Lectures to the Public and the Responsibilities of the Dental Profession in Relation to this Work," Thaddeus P. Hyatt, Sec. IV. |
| "Research on the Resistance of the Red Corpuscles of the Blood of the Human Gums (Normal and Pathological) to the Diluted Salt Solutions," Arrigo Piperno, Sec. I. | "The Next Steps in the Development of Oral Hygiene Among School Children," Edwin S. Brown, Sec. IV. |
| "A Study on the Minute Structures of Dentine, Especially on the Relation between the Dentinal Fibrils and Tubules," Kanae Hanazawa, Sec. I. | "Municipal Clinics," Matthew Carney, Sec. IV. |
| "Radiography in Dentistry and Orthodontia," A. H. Ketcham and Ira C. Brownlie, Sec. II. | "Some Prevalent Errors in the Esthetic and Technical Phases of Operative Practice," Clarence O. Simpson, Sec. VIII. |
| "Differentiation of the Radiographical Appearance of Normal and Abnormal," Noborn Terunchi, Sec. II. | "Non-Cohesive Gold Foil as a Filling Material," F. W. Bliss, Sec. VIII. |
| "Affinity of Metals for Each Other in the Molten Condition, as Shown in Platinum | "The Sharpening of Instruments," R. B. Giffen, Sec. VIII. |
| | "Operative Procedure in Relation to Dental Caries and Diseases of the Investing Tissues," Arthur D. Black, Sec. VIII. |

DAILY PROGRAM OF PAPERS

Thursday, September 2, 1915, 9:00 a. m.

Address, J. P. Buckley, Sec. V.

"Pain, Its Significance and Value as a Diagnostic Symptom, Its Advantages and Disadvantages, and the Importance of Its Alleviation and Prevention," E. T. Loeffler, Sec. V.

"Superstitions of Dental Medicine," Garrett Newkirk, Sec. V.

"The Surgical Treatment of Congenital Cleft Palate," Chas. H. Oakman, Sec. VI.

"A Few Thoughts on the Comparative Anatomy of the Maxillary Sinus, Its Relation to the Teeth, Mandibular Articulation and Alimentary System," Mathew H. Cryer, Sec. VI.

"What Is the Line of Occlusion?" (illustrated), R. Ottolingui, Sec. VII.

"The Use of the Angle-Young Lock and Auxiliary Wires in Conjunction with the New Angle Appliance" (illustrated), A. P. Rogers, Sec. VII.

Address, J. Lowe Young, Sec. VII.

"The Plantation of Teeth," M. J. Congdon, Sec. VIII.

"Extracting of Deep-Lying Roots of Teeth in Cases of Hemophilia and Gravidity" (according to a method of his own), Th. Weber, Sec. VIII.

"The Recesional Lines of the Pulp in Their Relation to Operative Dentistry," H. G. Chappel, Sec. VIII.

"Electricity as an Aid to Diagnosis," A. C. Wherry, Sec. VIII.

Address, C. N. Johnson, Sec. X.

"The Present Status of Dentistry in the Philippines," Louis Ottofy, Sec. X.

"Possible Reforms in Our Literature, Both Periodical and Text-Book," Herbert L. Wheeler, Sec. X.

"Ex-Presidents of the American, Southern and National Dental Associations," J. P. Marshall, Sec. X.

Friday, September 3, 1915, 9:00 a. m.

"The Educational Value of Oral Hygiene in the Army," Edwin P. Tignor, Sec. IV.

"Report on Dental Clinical Work in the Hospitals, Schools and Prisons in Manila, P. I.," Louis Ottofy, Sec. IV.

"Making the Exposed Tooth Surfaces Slippery—An Appeal to General Practitioners," Leander Van Orden, Sec. IV.

"Regeneration of Bone," Thos. B. Hartzell, Sec. VI.

"Surgical Treatment of the Antrum of Highmore," Adolph B. Baer, Sec. VI.

"Interdependence of the Rhinologist and Oral Surgeon," Thomas E. Carmody, Sec. VI.

"Further Research on the Influence of the Occlusal Forces on the Development of the Skull" (illustrated), L. W. Baker, Sec. VII.

"An Attempt Towards Automatic Correction," L. Subirana, Sec. VII.

"A Study of the Abnormal Overbite" (illustrated), H. A. Pullen, Sec. VII.

"A Method of Surveying and Mapping the

Dental Apparatus" (illustrated), F. L. Stanton and Dipl-ing Rudolph Hanan, Sec. VII.

"Informal Talk on Inlays," E. S. Tracy, Sec. VIII.

"Root Canals, Their Treatment, Preparation and Filling," F. W. Gethro, Sec. VIII.

"Anoci Association in Dental Operations," Richard Reithmiller, Sec. VIII.

"System Versus Empirical Methods in Operative Procedure," Fred E. Hart, Sec. VIII.

"Some Suggestions for Securing Adequate and Uniform Dental Legislation," Homer C. Brown, Sec. X.

"Commercialized Education and the Itinerant Instructor," Herbert J. Samuels, Sec. X.

"Preliminary Educational Qualifications for Entrance to Dental Colleges," L. L. Barber, Sec. X.

"Aggressiveness and Protection in Dental Publicity," Pearson Du Bose, Sec. X.

DAILY PROGRAM OF PAPERS

Saturday, September 4, 1915, 9:00 a. m.

- "Sinuses of the Head," Arthur E. Burns, Sec. I.
- "Resistance and Dental Diseases," Percy R. Howe, Sec. I.
- "Changes Produced in the Circulation by Nitrous Oxid-Oxygen," Theodore D. Casto, Sec. I.
- "The Agencies in Ohio Co-operating in a General Hygiene Educational Campaign," Homer C. Brown, Sec. IV.
- "Hygiene of the Bucco-Dental Cavity as an Important Auxiliary for the Prophylaxis of the Incipient Bucco-Pulmonary Tuberculosis," Ernesto A. Dam, Sec. IV.
- "The Importance of Mouth Hygiene During Infancy and Early Childhood," Horace Howe, Sec. IV.
- "An Ideal Cement for Stopping Root Canals," Vincenzo Guerini, Sec. VIII.
- "Peridental Anesthesia, Intraosseous Method," Frank L. Platt, Sec. VIII.
- "Technique in the Treatment of Pulp, Root Canal and Periapical Areas" (illustrated), M. L. Rhein, Sec. VIII.
- "Restoration of the Masticatory Functions of Molars and Bicuspids with Carved Gold Inlays" (illustrated), R. Ottolengui, Sec. VIII.
- Address, Ellison Hillyer, Sec. IX.
- "Impression Material and Impressions," George H. Wilson, Sec. IX.
- "Artificial Restorations in Palatal Defects," V. E. Mitchell, Sec. IX.
- "Sensible Porcelain Crowns," J. Melville Thompson, Sec. IX.
- "Principles of Kitami's Rubber Plate Work," Yukimasa Kitami, Sec. IX.
- "Dental Literature," Garrett Newkirk, Sec. X.
- "Report on Dental Clinical Work in the Hospitals, Schools and Prisons in Manila, P. I.," Louis Ottofy, Sec. X.
- "An Efficacious Means of Teaching Dental Students the Anatomy of the Teeth and Alveolus," Vincenzo Guerini, Sec. X.
- "The Life and Works of Guiseppangelo Fonzi," Vincenzo Guerini, Sec. X.

Monday, September 6, 1915, 9:00 a. m.

- "Anomalies in Dental Pulp Structure and Their Relation to Clinical Work," V. A. Latham, Sec. I.
- Brief synopsis of paper entitled, "Investigation of Mottled Teeth; an Endemic Affection of the Enamel of the Teeth Not Heretofore Known" (illustrated), Frederick S. McKay, in collaboration with G. V. Black, Sec. I.
- "The Evolution and Development of the Mandible," Martin Dewey, Sec. I.
- "Conductive Anesthesia," Arthur E. Smith, Sec. V.
- "Surgery of Chronic Alveolar Abscesses," J. F. Biddle, Sec. V.
- "Bad Root Canal Work—What Shall We Do About It?" Howard R. Raper, Sec. V.
- "Some Practical Uses in Dental Practice for Tungsten and Molybdenum," W. A. Price, Sec. VII.
- "Dr. E. H. Angle's New Orthodontic Appliances" (illustrated), A. H. Ketcham, Sec. VII.
- "The Advantages of Early Treatment," M. T. Watson, Sec. VII.
- "The Successful Scientific Treatment of Peridental Diseases," T. Sydney Smith, Sec. VIII.
- "Those Having Pyorrhea Alveolaris Can Be Cured, but None of Our Patients Need Have This Disease," Robin Adair, Sec. VIII.
- "Pyorrhea Alveolaris, Showing the Pathological Changes Occurring in the Alveolus, Based on Microscopic Observation," Frederick Hecker, Sec. VIII.
- "Emetin Hydrochlorid and Autogenous Vaccines in the Treatment of Pyorrhea Alveolaris," C. E. Frasier, Sec. VIII.
- "Technique for Making Impressions and Models for the Construction of Artificial Dentures" (each step taken to be demonstrated by motion pictures), W. A. Giffen, Sec. IX.
- "Crown and Bridge," H. J. Goslee, Sec. IX.
- "Some Fundamental Things in Dental Prosthesis," J. Leon Williams, Sec. IX.
- "The Normal Arch in Prosthodontia," J. Leon Williams, Sec. IX.

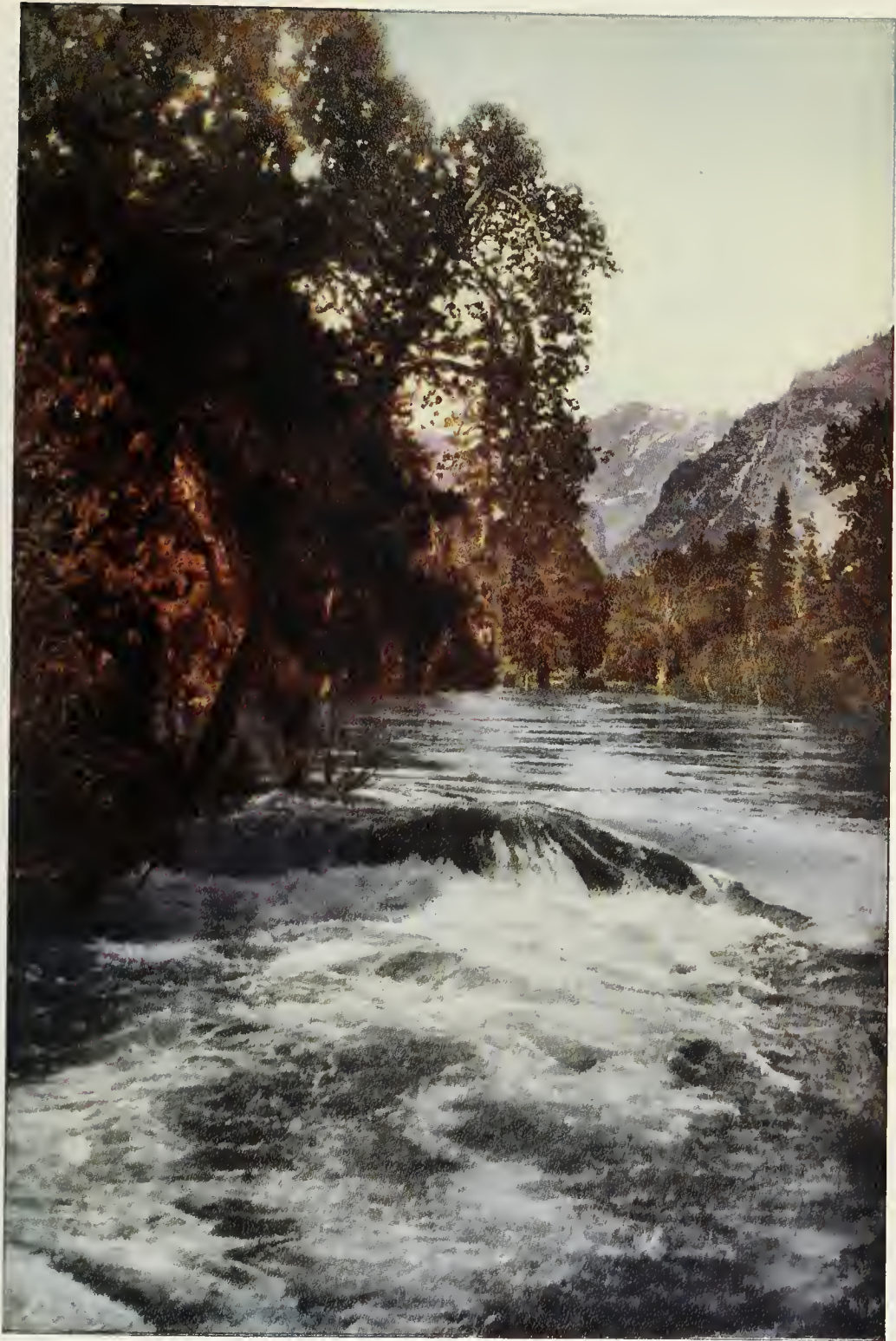
DAILY PROGRAM OF PAPERS

Tuesday, September 7, 1915, 9:00 a. m.

- "Oral Sepsis as Related to Systemic Diseases," W. H. Strietmann, Sec. II.
- "Concerning Mouth Infections as Related to Systemic Diseases," S. Mark White, Sec. II.
- "On Shot Fractures of Jaw Bones," Rudolph Weiser, Sec. VI.
- "Chronic Peridental Infections—The Value of Blood Examination as a Diagnostic Aid," W. H. G. Logan, Sec. VI.
- "The Surgical Treatment of Trigeminal Neuralgia," Harry M. Sherman, Sec. VI.
- "Arthritis Deformans Due to Pyorrhea Alveolaris and Faulty Bridge Work," Harry A. Goldberg, Sec. VIII.
- "Mental and Co-operative Prophylaxis," C. Smith Long, Sec. VIII.
- "Pyorrhea Alveolaris," John S. Engs, Sec. VIII.
- "Emetin vs. Surgery in the Treatment of Pyorrhea," Thomas B. Hartzell, Sec. VIII.
- "A Plea for a Better Understanding of the Morphology of the Human Face as Applied to Dental Prosthesis," Joseph Nalin, Sec. IX.
- "Some Phases of Vulcanite Work," H. S. Haslett, Sec. IX.
- "Comparative Crowns and Bridges," W. O. Hulick, Sec. IX.
- "Prehistoric Man, with Special Reference to His Jaws and Teeth," J. Leon Williams, Sec. IX.
- "The Development of Dental Service in the Navy," Emory A. Bryant, Sec. X.
- "Nomenclature," Arthur D. Black, Sec. X.
- "Dentistry at Penal Institutions" (the Dental Department at San Quentin Prison), F. V. Simonton, Sec. X.

Wednesday, September 8, 1915, 9:00 a. m.

- "Radiographic Study of the Attachment of Teeth of Lower Animals," Martin Dewey, Sec. II.
- "Pathological Conditions Found in the Mouths of Some Children," M. Evangeline Jordan, Sec. II.
- "General Infections of Oral Origin," Harry P. Carlton, Sec. VI.
- "A Case of Acromegaly," Pehr Gadd, Sec. VI.
- "Osteoplastic Lengthening of the Lower Jaw in Micronathy According to Von Eiselberg's Method," Hj. von Bornsdorff.
- "The Therapeutics of Radicular and Follicular Dental Cysts," Rudolf Weiser, Sec. VI.
- "Etiology and Treatment of Oral Tumors," Fulton Risdon, Sec. VI.
- "Nerve Blocking; Its Use in Operative Dentistry and Oral Surgery," B. R. East, Sec. VI.
- "Pyorrhea and the Emetin Treatment," H. I. Horner, Sec. VIII.
- "The Endameba Buccalis as Seen Through the Microscope" (illustrated by moving-picture film and lantern), H. Page Bailey, Sec. VIII.
- "The Technique and Instrumentation in Prophylaxis and Pyorrhea" (illustrated by moving-picture film), Maxwell M. Dixon, Sec. VIII.
- "Some Grave Errors in the Practice of Crown and Bridge Work," Vincenzo Guerini, Sec. IX.
- "Simple Face Bow, for Taking the Anterior-Posterior Length of the Jaw," Alexander Manhood, Sec. IX.
- "Home-Made Interchangeable Teeth for Crown and Bridge Work," Alexander Manhood, Sec. IX.
- "The Mechanical Correction of Cleft Palate," Calvin S. Case, Sec. IX.
- "An Office Building for Dentists," C. W. Dickey, Sec. X.
- "Organization of the Dental Corps of the United States Army," Sec. X.
- "Dental Society Organizations," E. S. McCord, Sec. X.



JUNE SONGS IN THE SIERRA

Courtesy of Sunset Magazine

The Sierra Nevada forms the eastern wall of the wide San Joaquin valley. On its cold crown lies a rim of glaciers. Forests of sugar pine and silver fir cover its slopes, feeding the lumber man and the mills of grand rapids. The gigantic Sequoia rises above the pines and the Yosemite, drawing upward an endless stream of worshipers from all the world, sends down a singing stream of water to feed the ditches far below



Alphabetical List of All Contributors to the Program

Argue, J. E., clinic.
Atwood, W. A., clinic.
Adair, Robin, paper, clinic.
Avary, Hugh, clinic.
Ayres, Chas. S., clinic.
Batkin, Fred, clinic.
Bean, Geo. L., clinic.
Bridges, J. S., clinic.
Baker, James B., clinic.
Bogue, Edward A., clinic.
Boisol, Joseph W., clinic.
Bartlett, U. S., clinic.
Baker, R. Clifton, clinic.
Bischoff, J. M., clinic.
Bruhns, H. J., clinic.
Bell, W. G., clinic.
Bryant, Emory A., paper.
Barber, L. L., paper.
Bailey, H. Page, paper.
Black, Arthur D., paper, clinic.
Bliss, F. W., paper.
Baker, L. W., paper.
Baer, Adolph B., paper.
Broomell, I. Norman, address.
Burns, Arthur E., paper.
Black, G. V., paper.
Brownlie, Ira C., paper.
Brown, Homer C., paper.
Buckley, J. P., address, clinic.
Biddle, J. F., paper.
Brophy, Truman W., address.
Bornsdorff, H. J. von.
Casto, Theodore D., paper.
Chayes, H. E. S., clinic.
Cryer, Mathew H., paper.
Craig, Thornton, clinic.
Carmody, Thomas E., paper.
Carlton, Harry P., paper.
Congdon, M. J., paper, clinic.
Carson, E. M., clinic.
Chappel, H. G., paper.
Case, Calvin S., paper, clinic.
Casaday, G. H., paper.
Carey, J. J., clinic.
Capon, Wm. A., clinic.
Carlton, H. P., clinic.
Carmany, Jas. N., clinic.
Chase, Samuel H., clinic.
Campbell, R. E., clinic.
Chesholm, William A., clinic.
Campbell, Dayton D., clinic.
Cline, Jean, clinic.
Conzett, John V., clinic.
Ducasse, Edward B., clinic.
Dewey, Martin, paper.
Dam, Ernesto A., paper.
Dunning, Henry Sage, paper.
Dixon, Maxwell M., paper, clinic.
Du Bose, Pearson, paper.
Dickey, C. W., paper.
Dunn, Robert, clinic.
De Mille, T. Carlyle, clinic.
Day, R. A., clinic.
Dean, O. T., clinic.
Dean, O. S., clinic.
Eggert, H. V., clinic.
East, B. R., paper.
Engs, John S., paper.
Elliot, E. N., clinic.
Edgers, E. B., clinic.
Engstrom, C. J. R., clinic.
Frazee, O. I., clinic.
Fiset, C. F., clinic.
Fontaine, S. B., clinic.
Friesell, F. C., paper.
Frates, J. E., clinic.
Fitzgerald, W. H., paper.
Frasier, C. B., paper.
Ferrier, W. I., clinic.
Fletcher, Thos., clinic.
Federspiel, M. N., clinic.
Fisher, W. C., clinic.
Goodman, Nye White, clinic.
Green, L. C., clinic.
Gardener, J. A., clinic.
Gardner, W. S., clinic.
Grosley, Chas. P., clinic.
Giles, C. R., clinic.
Goslee, H. J., paper, clinic.
Godd, Pehr, paper.



A DAUGHTER OF THE SNOWS

Vernal Fall, in the Yosemite, a crystal link between the snow-peaks of the High Sierra and the fertile lowlands.

ALPHABETICAL LIST OF ALL CONTRIBUTORS TO PROGRAM

- Giffen, R. B., paper.
 Gethro, F. W., paper, clinic.
 Guerini, Vincenzo, paper.
 Goldberg, Harry A., paper.
 Giffen, W. A., paper.
 Gallie, D. M., clinic.
 Hanazawa, Kanae, paper.
 Howe, Percy R., paper.
 Harris, George Bailey, paper.
 Hartzell, Thos. B., paper, clinic.
 Howe, Horace, paper.
 Hanan, Dipl-ing Rudolph, paper.
 Hart, Fred E., paper, clinic.
 Hecker, Frederick, paper.
 Horner, H. I., paper.
 Hillyer, Ellison, address.
 Haslett, H. S., paper, clinic.
 Hulick, W. O., paper.
 Hoffman, Abram, clinic.
 Hall, S. W., clinic.
 Hurd, Everett M., clinic.
 Hughes, W. R., clinic.
 Heitman, F. W., clinic.
 Hoover, W. A., clinic.
 Hinman, Thomas P., clinic.
 Hoffman, E. C., clinic.
 Hearne, R. L., clinic.
 Henshaw, Chas. H., clinic.
 Hussey, Samuel W., clinic.
 Haskell, L. P., clinic.
 Hall, Rupert E., clinic.
 Harrison, W. L., clinic.
 Hanford, W. H., clinic.
 Hergert, F. W., clinic.
 Holmes, C. A., clinic.
 Hurd, E. M., clinic.
 Irons, R. B., clinic.
 Johnson, Arthur, clinic.
 Jacobson, L. J., clinic.
 Jordan, M. Evangeline, paper.
 Johnson, C. N., address.
 Jackson, V. H., clinic.
 Jarvis, C. F., clinic.
 Jarman, A. W., clinic.
 James, Austin F., clinic.
 Jones, J. C., clinic.
 Ketcham, A. H., paper, clinic.
 Kitami, Yukimasa, paper.
 Kesler, F. H., clinic.
 Kerner, Geo. W., clinic.
 Lang, J. Elton, clinic.
 Latham, V. A., paper.
 Loeffler, E. T., paper.
 Logan, W. H. G., paper.
 Long, C. Smith, paper.
 Linne, A. B., clinic.
 Locke, Franklin H., clinic.
 Moore, T. E., clinic.
 Mariotte, P. A., clinic.
 McKay, Frederick S., paper.
 Millberry, Guy S., paper, clinic.
 Marshall, John Sayre, address.
 McManus, Charles, paper.
 Mitchell, V. E., paper, clinic.
 Manhood, Alexander, paper, clinic.
 Marshall, John P., paper.
 McCord, E. S., paper.
 McMath, J. F., clinic.
 Merriman, A. F., clinic.
 McCoy, John R., clinic.
 McDonagh, Andrew J., clinic.
 Marshall, Jay P., clinic.
 McGehee, W. H. O., clinic.
 Murray, B. A., clinic.
 Mattice, C. M., clinic.
 McCollum, B. B., clinic.
 Mauk, E. H., clinic.
 Muegge, V. C., clinic.
 Noyes, Frederick Bogue, address.
 Newkirk, Garrett, paper.
 Nolin, Joseph, paper, clinic.
 Novitzky, Josef, clinic.
 Neill, P. E., clinic.
 Nyce, J. E., clinic.
 Ottofy, Louis, paper.
 Oakman, Chas. H., paper.
 Ottolengui, R., paper.
 O'Connel, clinic.
 Power, Wm. B., clinic.
 Piperno, Arrigo, paper.
 Pullen, H. A., paper.

ALPHABETICAL LIST OF ALL CONTRIBUTORS TO PROGRAM

- | | |
|--------------------------------------|------------------------------------|
| Price, W. A., paper. | Sitherwood, Geo. D., clinic. |
| Platt, Frank L., paper, clinic. | Stansberry, C. J., clinic. |
| Philpott, C. A., clinic. | Steffens, J. F., clinic. |
| Pease, Joseph Loran, clinic. | Sans, Homer, clinic. |
| Peck, Arthur E., clinic. | Thompson, G. A., clinic. |
| Pague, Frank C., clinic. | Ternuchi, Noboru, paper. |
| Raiche, F. E., clinic. | Towle, S., paper. |
| Reinig, C. N., clinic. | Tracy, E. S., paper, clinic. |
| Ruyl, J. P., clinic. | Thompson, J. Melville, paper. |
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| Rogers, A. P., paper. | Van Orden, Leander, paper, clinic. |
| Reithmiller, Richard, paper, clinic. | Williams, W. J., clinic. |
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| Simonton, F. V., paper, clinic. | White, S. Mark, paper. |
| Skinner, paper. | Weiser, Rudolph, paper. |
| Smith, Arthur E., paper, clinic. | Watson, M. T., paper. |
| Strauss, Oscar A., paper. | Weber, Th., paper. |
| Strietmann, W. H., paper. | White, F. A., clinic. |
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| Stanton, F. L., paper, clinic. | Wheeler, Herbert L., paper. |
| Subirana, L., paper. | Winningham, M. A., clinic. |
| Simpson, Clarence O., paper, clinic. | Wilson, C. E., clinic. |
| Smith, T. Sydney, paper, clinic. | Weinberger, Bernhard Wolf, clinic. |
| Samuels, Herbert J., paper, clinic. | Warboys, Chas. H., clinic. |
| Schultheis, C. F., clinic. | Wenker, Raymond J., clinic. |
| Smith, H. W., clinic. | Wallace, A. N., clinic. |
| Sarrazin, Jules J., clinic. | Wilson, W. E., clinic. |
| Starr, C. T., clinic. | Weirick, H. W., clinic. |
| Shores, F. W., clinic. | Ward, A. W., clinic. |
| Schmidt, H. H., clinic. | Watkins, J. C., clinic. |
| Smith, William C., clinic. | Weinstein, Louis J., clinic. |
| Sweeny, E. S., clinic. | Walsh, Thomas H., clinic. |
| Smith, Harry L., clinic. | Williams, S. W., clinic. |
| | Young, J. Lowe, address. |

Diseases desperate grown
 By desperate appliances are reliev'd
 Or not at all.
 —Hamlet, Act IV, Scene 3.

Section on Clinics

Clinic Committee

JOHN D. MILLIKIN, Chairman, San Francisco, Cal.

SAMUEL W. HUSSEY, Berkeley, Cal.

E. J. HOWARD, San Francisco, Cal.

HOMER T. CRAIG, San Francisco, Cal.

H. C. PETERS, San Francisco, Cal.

Meeting Place, Entire Fourth Floor, West Wing

ANNOUNCEMENT OF CLINIC COMMITTEE

All clinics, including lantern and moving pictures given in connection with the clinics, will be located on the fourth floor, west end of the Auditorium.

There will be five clinic rooms 25 by 60 feet and one room for pictures 40 by 60 feet, X-Ray room, recovery room for patients, clinic committee room, telephone room, and lavatories for men and women, all on one floor. All clinic rooms will have sky-lights allowing an abundance of light to all parts of the room.

There will be six or seven chair and table clinics given in a room. One room will be used for progressive clinics. Each chair will be surrounded with steps allowing about thirty persons to view the clinic at a time, there being an iron railing around the chair to prevent crowding the operator. Each operator will be provided with new chairs, electric engines, bracket tables, instrument table, washstand, warm water, soap, nail brush, towels and a push button for call boy. There will also be an electric sterilizer and sterilizing solutions in each clinic room.

Each table clinic will be given on a table upon a raised platform. There will be 30 chairs to each table clinic, allowing those viewing same to be seated. Every half hour groups viewing clinics will change from one clinic to the next; clinicians will repeat their clinics, if possible; those not able to will divide their clinics into steps,

explaining steps as the different groups view their clinics. This will not apply to Progressive Clinics, Pyorrhea Clinics, Surgical Clinics or Lantern or Moving Picture Demonstrations.

Those wishing to view certain groups of clinics will find on the fourth floor, west end of the Auditorium, a table with clerks in attendance who will furnish tickets to the clinic desired. Clinics will commence at 1:30 p. m. Clerks will be in attendance at 12 o'clock for those wishing to get tickets for certain clinics, as the number viewing these clinics will be limited.

Tickets will be given out for that day only. No tickets will be necessary for progressive or moving picture clinics.

There will be a nurse in attendance at the recovery room. The services of an anesthetist and an X-ray specialist will be available to all clinicians.

The Panama-Pacific Dental Congress will assume no responsibility for the result of the operation nor for any damage claimed to arise from any statement made by the clinician herein listed.

The selling of instruments, materials or appliances, or the distribution of circulars or cards in the clinic rooms will not be permitted. Any persons violating this rule will forfeit the privilege of remaining in the Clinic Hall.

All surgical clinics will be given in hospitals and announcement will appear in the daily program.

PROGRAM OF CLINICS

Tuesday, August 31, 1915, 1:30 p. m.

- W. I. Ferrier, Burlington, Wash.—“Gold Foil Operation, Using Fisher’s Method of Local Anesthesia for Cavity Preparation.” Chair Clinic.
- C. F. Schultheis, Oakland, Cal.—“Analgesia.” Humphrey’s Inhaler Chair Clinic.
- M. A. Winningham, Seattle, Wash.—“Intraosseous Anesthesia.” Chair Clinic.
- C. E. Wilson, San Francisco—“Continuous Gum Cases.” Table Clinic.
- H. W. Smith, Alameda, Cal.—“How to Build Up Abutment on Fractured Root for Richmond Crown.” Table Clinic.
- E. S. Tracy, Brockton, Mass.—“Some Applications of the Gilmore Attachments to Partial Plates and Removable Bridge Work.” Table Clinic.
- J. J. Carey, Honolulu, H. I.—“Richmond Crown, Backing, Facing, Removal of Coping and Dowel from Root and Soldering Same.” Table Clinic.
- Jules J. Sarrazin, New Orleans, La.—“Home and Chair Prophylaxis.”
- H. J. Goslee, Chicago, Ill.—“Bridge Work.” Table Clinic.
- V. H. Jackson, New York City—“Orthodontia.” Table Clinic.
- Robert Dunn, San Francisco—“Orthodontia.” Table Clinic.
- Hugh Avary, San Francisco—“Porcelain in Crown Work.” Table Clinic.
- Wm. A. Capon, Philadelphia, Pa.—“Special Porcelain Crowns for Bicuspid and Molars.” Table Clinic.
- T. Sydney Smith, Palo Alto, Cal.—“Blood Clot Method of Treating Periodontal Diseases.” Chair Clinic.
- E. N. Elliot, Chicago, Ill.—“Dental Medicines.” Table Clinic.
- D. M. Gallie, Chicago, Ill.—“Cavity Preparation.” Table Clinic.
- R. W. Rule, Oakland, Cal.—“Gold Foil Operation in Upper Bicuspid or First Molar.” Chair Clinic.
- C. T. Starr, Reno, Nev.—“Surgical Treatment of Pyorrhea under Conductive Anesthesia.” Chair Clinic.
- Josef Novitzky, San Francisco—“Root Amputations.” Chair Clinic.
- Bernhard Wolf Weinberger, New York City—“Evolution of Orthodontia Appliances.” Table Clinic.
- Abram Hoffman, Buffalo, N. Y.
- S. W. Hall, Berkeley, Cal.—“Special Case.” Chair Clinic.
- Fred Batkin, Oakland, Cal.—“Exodontia.” Chair Clinic.
- H. P. Carlton, Oakland, Cal.—“Fischer’s Nerve Blocking.” Table Clinic.
- Everett M. Hurd, Portland, Ore.—“A Table Clinic on the Gysi Anatomical Articulation, Using Adaptable Articulation and Trubyte Teeth.” Table Clinic.
- Geo. L. Bean, San Francisco—“Porcelain Jacket Crown—A New Method.” Table Clinic.
- J. P. Buckley, Chicago, Ill.—“The Prevention and Eradication of Local Infection.” Table Clinic.
- Progressive Clinics, Total Demonstration of the Various Steps in the Black Method of Gold Foil Operations—by C. F. Jarvis, W. R. Hughes, F. W. Heitman, F. H. Kestler, M. J. Congdon, members of the California Study Club of Alameda County, California.

Wednesday, September 1, 1915

- C. L. Tenny, Seattle, Wash.—“Gold Inlay and Porcelain Combination.”
- J. F. McMath, Oakland, Cal.—“Analgesia.” Chair Clinic.
- A. F. Merriman, Oakland, Cal.—“Hot Water Obtunder.” Table Clinic.
- P. E. Neill, Nashville, Tenn.—“Vulcanite with Finished Smooth Surfaces.” Table Clinic.
- P. A. Mariotte, Oakland, Cal.—“Porcelain Crown with Cast Gold Base and Preparation of Cast Gold Base for Standard Abutments.” Chair Clinic.
- Edward B. Ducasse, Maison Blanche, New Orleans, La.—“The Use of a Porcelain Jacket Molar as an Abutment in Bridge Work and Porcelain Gum Restoration.” Table Clinic.



Rainier National Park lies on the slope of the Illac colossus that dominates the Puget Sound region. Its gate is within a few hours' automobile or train ride from either Tacoma or Seattle. It is closer to more large cities, more easy of access than any other important national playground. It has glaciers, forests, alpine meadows, trout brooks and waterfalls; toboggan parties shoot down two-mile snowfields in July—
and land on a carpet of flowers.

Courtesy Sunset Magazine.

PROGRAM OF CLINICS

- Chas. H. Warboys, Seattle, Wash.—"Porcelain Angle Restorations." Chair Clinic.
- C. A. Philpott, Boise, Idaho—"Prophylactic Crown. Pyo-laxis." Chair Clinic.
- Thos. Fletcher, San Francisco, Cal.—"Cemented Pin Facings in Cast and Built-up Crowns." Table Clinic.
- T. E. Moore, Berkeley, Cal.—"Bridge Work." Table Clinic.
- John R. McCoy, Los Angeles, Cal.—"Orthodontia." Table Clinic.
- J. S. Bridges, Chicago, Ill.—"Original Chemical Treatment for Pyorrhea." Chair and Table Clinic.
- Fred W. Gethro, Chicago, Ill.—"Technic of Root Canal Filling, Special Drawings and Radiograph Reproductions." Table Clinic.
- W. A. Hoover, Gibson City, Ill.—"Cast Richmond Crown, Porcelain Facing." Table Clinic.
- Jas. W. Cormany, Mt. Carrol, Ill.—"Sure Retention of Upper Denture." Table Clinic.
- G. A. Thompson, Chicago, Ill.—"Porcelain Jacket Crown, and Perfect Contons Bridge Work." Table Clinic.
- Samuel H. Chase, Madison, Wis.—"Radiographs and Specimens Showing Impacted Teeth which Have Caused Systemic Disorders." Table Clinic.
- Geo. W. Kerner, Racine, Wis.—"Restoring Vital Lower Posterior Teeth with Gold Band and Porcelain Cusps." Table Clinic.
- A. T. Rasmussen, La Crosse, Wis.—"The Rational Operation for Chronic Empyema of Maxillary Sinus." Surgical Clinic.
- James B. Baker, Madison, Wis.—"Synthetic Porcelain Fillings." Chair Clinic.
- Raymond J. Wenker, Milwaukee, Wis.—"Surgical Removal of Alveolar Foci with Nitrous Oxide and Oxygen and also with Fischer Method of Conductive Anesthesia." Chair Clinic.
- M. N. Federspiel, Milwaukee, Wis.—"Surgical Correction of Cleft Palate, Introducing a New Method for Overcoming Lateral Tension." Surgical Clinic.
- Nye White Goodman, Los Angeles, Cal.—"Porcelain Jacket Crown without the Use of Facings." Table Clinic.
- Leander Van Orden, San Francisco, Cal.—(a) "Some Aid in the Placing of the Rubber Dam." (b) "Cotton Rolls and Cottonoid Combined for the Exclusion of Moisture from the Dental Operator's Field." Chair Clinic.
- Gysi Progressive Clinic—Under direction of F. W. Hergert, Seattle, Wash.; C. A. Holmes, C. J. Stansberry, E. M. Hurd.
- L. C. Green, Chicago, Ill.—"Extracting under Local Anesthesia." Chair Clinic. Or Table Clinic on extraction, with models.
- Thomas P. Hinman, Atlanta, Ga.—"Construction and Adjustment of Anterior Porcelain Crowns." Chair Clinic.
- A. Manhood, Santiago, Chile—"Home-made Interchangeable Teeth for Crown and Bridge Work." Table Clinics.
- Joseph Loran Pease, Oakland, Cal.—"The Dental Nurse, Aids and Conveniences." Chair Clinic.
- M. Thayer Rhodes, Berkeley, Cal.—"Combination Cohesive and Non-cohesive Gold Foil Operation." Chair Clinic.

Thursday, September 2, 1915

- Walter R. Hughes, Oakland, Cal.—"Analgesia." Clark Inhaler. Chair Clinic.
- H. S. Haslett, Pittsburg, Pa.—"Vulcanite." Table Clinic.
- Herbert J. Samuels, Oakland, Cal.—"Truss Type Lingual Bar." Table Clinic.
- Geo. H. Wilson, Cleveland, Ohio—"Full Upper Plaster Impressions." Chair Clinic.
- Andrew J. McDonagh, Toronto, Canada—"Demonstration of a Method of Restoring Gum Tissue in Special Cases and Peridontic Splint." Table Clinic.
- R. E. Campbell, Berkeley, Cal.—"Backings." Table Clinic.
- A. W. Jarman, Philadelphia, Pa.—"Removable Bridge Work." Table Clinic.
- J. E. Nyce, New York, N. Y.
- A. H. Wallace, Oakland, Cal.—"Simple Construction of Porcelain Furnace, Por-

PROGRAM OF CLINICS

- celain Inlay, Use of Glass Instruments Burnishing Platinum Matrix." Chair Clinic.
- Thos. P. Hartzell, Minneapolis, Minn.—"Principles Involved in Surgical Treatment of Pyorrhea." Illustrated by models and lantern slides. Table Clinic.
- Chas. S. Ayres, Oakland, Cal.—"Bridge Construction." Table Clinic.
- J. A. Gardener, Memphis, Tenn.—"Something New in Crown Bridge Work." Table Clinic.
- W. E. Wilson, San Diego, Cal.—"Orthodontia." Table Clinic.
- J. P. Ruyl, New York City—"Staining of Porcelain Teeth." Table Clinic.
- F. W. Shores, Oakland, Cal.—"Porcelain Jacket Crown." Chair Clinic.
- E. C. Hoffman, Plainfield, Ill.—"A Simple Yet Positive Method of Retaining Upper or Lower Posterior Dentures." Table Clinic.
- William A. Chesholm, Anderson, S. C.—"Baked Porcelain Seating for Detached Post Crowns." Table Clinic.
- T. Carlyle De Mille, Seattle, Wash.—"Method of Correcting Defective Inlays." Table Clinic.
- Dayton D. Campbell, Kansas City, Mo.—"Impressions, Hall or Green Method." Chair Clinic.
- Jay P. Marshall, St. Louis, Mo.—"Simple — and Complex Restorations with Berylite." Chair Clinic.
- W. H. O. McGehee, Cincinnati, Ohio—"A New Cleft Palate Appliance and New Technique for Constructing Same." Table Clinic.
- Vethake E. Mitchell, New York, N. Y.—"Artificial Restorations in Congenital Cleft Palate." Table Clinic.
- Edward A. Bogue, New York, N. Y.—"Model Showing Arrest of Lateral Development." Table Clinic.
- Joseph W. Boisol, Astoria, Ore.—"Crown and Bridge Abutments Compatible with Prophylaxis." Table Clinic.
- Joseph Nolin, Montreal, Canada—"Art in Dentistry." Table Clinic.
- U. S. Bartlett, San Francisco, Cal.—"Extracting under Nitrous Oxide and Oxygen and Novocaine." Chair Clinic.
- H. W. Weirick, San Francisco, Cal.—"The Conservation of Badly Broken-Down Posterior Teeth by Inlay Rather Than Crown." Chair Clinic.
- "The University of California G. V. Black Club."—Fred E. Hart, C. B. Musante, F. A. White, Guy S. Millberry, E. H. Mauk, H. J. Bruhns, W. H. Hanford, Thornton Craig, H. B. Irons, F. V. Simon-ton, J. F. Steffens, V. C. Muegge, H. V. Eggert, C. R. Giles, J. E. Frates, Homer Sans, W. G. Bell, L. J. Jacobson.

Friday, September 3, 1915

- Robin Adair, Atlanta, Ga.—"A Systematized Method of Handling Pyorrhea Cases." Table Clinic.
- R. Clifton Baker, Los Angeles, Cal.—"Curettment for Pyorrhea Alveolaris." Chair Clinic.
- Jean Cline, Portland, Ore.—"Pyorrhea Alveolaris, Surgical Treatment." Chair Clinic.
- E. B. Edgers, Seattle, Wash.—"Prophylaxis Treatment." Chair Clinic.
- W. C. Fisher, New York City—"Prophylactic Treatment of the Necks of Teeth in Pyorrhea Work." Chair Clinic.
- R. L. Hearne, Seattle, Wash.—"Treatment of Pyorrhea Alveolaris." Chair Clinic.
- Chas. H. Henshaw, Des Moines, Iowa—"Treatment of Pyorrhea Alveolaris." Chair Clinic.
- Austin F. James, Chicago, Ill.—"Diagnosis of Pyorrhea Alveolaris." Chair Clinic.
- A. B. Linne, Seattle, Wash.—"Pyorrhea Treatment." Chair Clinic.
- B. A. Murray, Edmonton, Alberta, Canada—"The Possibilities in the Treatment of Pyorrhea Alveolaris." Chair Clinic.
- F. E. O'Connell, Seattle, Wash.—"Pyorrhea Splints." Table Clinic.
- C. M. Mattice, Seattle, Wash.—"Pyorrhea and Prophylaxis." Chair Clinic.
- J. C. Jones, Portland, Ore.—"Surgical Treatment of Pyorrhea Alveolaris." Chair Clinic.

PROGRAM OF CLINICS

- W. A. Atwood, San Francisco, Cal.—“Treatment of Pyorrhea Alveolaris.” Chair Clinic.
- C. A. Philpot, Caldwell, Idaho—“Treatment of Pyorrhea Alveolaris.” Chair Clinic.
- Arthur E. Peck, Minneapolis, Minn.—“Prophylaxis and Toothbrush Instruction for Our Patients.” Chair Clinic.
- C. N. Reinig, Seattle, Wash.—“Pyorrhea and Prophylaxis.” Chair Clinic.
- H. H. Schmidt, Portland, Ore.—“Pyorrhea Alveolaris.” Chair Clinic.
- Jules J. Sarrazin, New Orleans, La.—“Instrumentation in Rigg's Disease Treatment.” Table Clinic.
- Theodore S. Thompson, Portland, Ore.—“Treatment of Pyorrhea Alveolaris.” Chair Clinic.
- A. W. Ward, San Francisco, Cal.—“Prophylaxis.” Chair Clinic.
- Frank C. Pague, San Francisco, Cal.—(a) “Instrumentation, in Treatment of Pyorrhea.” (b) “Use of Fine Linen Thread for Movement of Teeth in Malocclusion and as a Temporary Splint.” (c) “Exhibit of Cases Treated and Retention of Bridges.” Chair Clinic.
- J. C. Watkins, Urnston, Salem, N. C.—“Prophylaxis.” Chair Clinic.
- Arthur Johnson, Los Angeles, Cal.—“Pyorrhea Alveolaris Treatment.” Chair Clinic.
- Maxwell M. Dixon, Los Angeles, Cal.—Moving Pictures of the Instrumentation and Technique of Pyorrhea and Prophylaxis.

Monday, September 6, 1915

- R. A. Day, San Francisco, Cal.—“Orthodontia.” Table Clinic.
- S. B. Fontaine, Oakland, Cal.—“Oral Surgery—Showing Radiographs and Specimens of a Compound Follicular Odontoma. Results After Operation.” Chair Clinic.
- John V. Conzett, Dubuque, Iowa—“The Making of a Gold Inlay.” Table Clinic.
- J. M. Bischoff, Stevens Point, Wis.—“Splints and Stays in the Treatment of Pyorrhea.” Table Clinic.
- Samuel W. Hussey, Berkeley, Cal.—“Green-Supplee Method of Impression Taking.” Table Clinic.
- L. P. Haskell, Chicago, Ill.—“Flat Jaws, Upper and Lower.” Table Clinic.
- Geo. Van Orden, San Francisco, Cal.—“Prevention and Treatment of Pyorrhea Alveolaris.” Chair Clinic.
- Arthur D. Black, Chicago, Ill.—“Thorough Mouth Examination, with Plan of Recording Same.” Table Clinic.
- Rupert E. Hall, Houston, Tex.—“A Solution of the Centers of the Mastication Apparatus.” Clinic.
- A. Manhood, Santiago, Chile—“Simple Face Bow for Taking the Antro-Posterior Length of the Jaw.” Table Clinic.
- A. E. Smith, Chicago, Ill.—“Conductive Anesthesia.” Clinic.
- Fred E. Hart, San Francisco, Cal.—“Stunts in Crown and Bridge Work.” Table Clinic.
- O. T. Dean, Seattle, Wash.—“Removal of Impacted Third Molar.” Clinic.
- Franklin H. Locke, Oakland, Cal.—“Gold Foil Operation.” (Black's Method.) Clinic.
- Calvin S. Case, Chicago, Ill.—“The Technics of Taking Impression of Cleft Palate.” Table Clinic.
- Louis J. Weinstein, New York, N. Y.—“The Constitution and Application of a Series of Improved Gold Alloy for Casting Crown and Bridge Work. Some New Devices for Removing Bridge Work.” Table Clinic.
- William C. Smith, Pasadena, Cal.—“Anterior Expansion of Mixed Dentures, Using the Angle New Appliance.” Table Clinic.
- Thomas H. Walsh, Indianapolis, Ind.—“Making of Gold Inlay.” Table Clinic.
- Frederick Lester Stanton, New York, N. Y.—“Demonstrating of a Dental Surveying Apparatus.” Table Clinic.
- Mande Tanner, San Francisco, Cal.—“Temporary Bridge Work on Deciduous Teeth.”

PROGRAM OF CLINICS

Tuesday, September 7, 1915

- C. J. R. Engstrom, Los Angeles, Cal.—
Denture Construction by the Gysi Method." Illustrated by motion pictures and slides.
- O. S. Dean, Oakland, Cal.—"Synthetic Porcelain Fillings." Chair Clinic.
- B. B. McCollum, Los Angeles, Cal.—"Gold Inlays." Table Clinic.
- J. Elton Lang, Los Angeles, Cal.—"Preparation of Root When Banded Crown Is Indicated." Table Clinic.
- J. Leon Williams, London, England—
"Classification of Teeth." Illustrated by models and pictures.
- J. E. Argue, Tacoma, Wash.—"Porcelain Jacket Crown Operation, a Method of Swedging the Matrix Direct." Chair Clinic.
- H. E. S. Chayes, New York, N. Y.—"Paralleling of Abutments for Bridge Work." Table Clinic.
- W. S. Gardner, Scranton, Pa.—"Accurate Method of Contouring and Casting a Molar and Bicuspid Crown and Constructing a Sanitary Bridge." Table Clinic.
- Frank L. Platt, San Francisco, Cal.—"Local Anesthesia." Intraosseous Method. Chair Clinic.
- Richard H. Riethmuller, Philadelphia, Pa.—
"Anoci-Association in Dental Operations." Chair Clinics.
- C. F. Fiset, Seattle, Wash.—"Gold Foil Operation in the Distal Surface of the Upper Left Cuspid."
- W. L. Harrison, Seattle, Wash.—"Gold Foil, Cohesive and Non-cohesive Foil in Combination."
- E. S. Sweeny, Seattle, Wash.—"Gold Foil Operation."
- Harry L. Smith, Seattle, Wash.—"Gold Foil Operation."
- E. M. Carson, St. Louis, Mo.—"Proximal Restoration, with De Trey's Synthetic." Chair Clinic.
- O. I. Frazee, Springfield, Ill.—"Some Uses of Gold Amalgam." Chair Clinic.
- Chas. P. Grosley, St. Louis, Mo.—(a) "Various Forms of Cavity Preparation for Inlay Abutments with Double Attachments." (b) "A Very Accurate Inlay Method without Casting." (c) "Treatment of Gold Inlays That Do Not Fit the Margins." Table Clinic.
- Rupert E. Hall, Houston, Tex.—"Perfectible Impression with Plaster of Paris. Demonstrating the Perfect Impression with the Mouth Closed." Table Clinic.
- Wm. B. Power, Seattle, Wash.—"Orthodontia." Table Clinic.
- Geo. D. Sitherwood, Bloomington, Ill.—
"Cast Aluminum Crowns with Detachable Porcelain Facings, Especially Adapted to the Anterior and Bicuspid Teeth." Table Clinic.
- F. E. Raiche, Marinette, Wis.—"Removable Bridge Work." Table Clinic.
- Clarence O. Simpson, St. Louis, Mo.—
"Cavity Preparations and Cast Restorations." Table Clinic.
- S. W. Williams, Chicago, Ill.—"Novocain in Dentistry." Table Clinic.
- T. E. Moore, Berkeley, Cal.—"Inferior, Anterior Bridge 'Porcelain Facings' on Vital Teeth." Table Clinic.
- W. J. Williams, Chicago, Ill.—"Novocain in Dentistry"—Table Clinic.
- A. H. Ketcham, Denver, Colo.—"Orthodontia." Table Clinic.

Even as a Surgeon, minding off to cut
Some cureless limb, before in use he puts
His violent Engins on the vicious member,
Bringeth his Patient in a senseless slumber,
And grief-less then (guided by use and art),
To save the whole, sawes off th' infected part.
—DU BARTAS, Divine Weekes and Workes.



Evening in Oakland

From Lakeside Park, Oakland, showing, across a small arm of Lake Merritt, Oakland's City Hall and a glimpse of her skyline.

"Along the west, the golden bars
Still to a deeper glory grew;
Above our heads the few faint stars
Looked out from the unfathomed blue;
And the fair city's clamorous jars
Seemed melted in the evening hue."

The photograph reproduced herewith was taken by W. H. Weilbye, who holds the copyright.

The Dentist—An Appreciation

By JOSEPH R. KATHRENS

"Open a little wider, please."

"That will do, I'm going to stand on the outside."

That's a funny story, and so is the one that jests about the dentist pulling a week's salary along with a weak tooth, but in all fairness to a good fellow let us analyze the dentist.

First, he must be a man with a college and technical education, serve an apprenticeship, and then if some one backs him he may start out for himself. His equipment should be just as complete the first day as at the end of the first year, for he cannot work without the proper "tools." We rarely stop to consider how much depends upon the dentist's two hands. In no other pursuit are conditions quite so unfavorable. A slight injury to his finger will put him out of business. There is no element in his profession that works while he sleeps; unless he is busy with his two hands there is no income. Not so with the lawyer, who may lose his hands and sometimes his head and still be a "paying" lawyer. The prima donna may lose her voice and still be able to make a grand clean-up on a series of "farewell tours." The real estate man's corner lot may make him a fortune overnight. The physician's patient may get well by secretly dumping his dope.

I sometimes wonder how men deliberately choose a profession in which there is but moderate compensation and absolutely nothing to leave to wife and children. The wholesale grocer may leave his business to his son or daughter or wife to manage and make money. Even the blacksmith is likely to have several gross of horseshoes made up that might yield a revenue should his kin desire to continue the business after he has gone; but when the poor dentist goes and his hands are folded across his breast, there is nothing left for any one; there can be no successor. Another pair of faithful hands, patiently toiling, may come along and fill a need or a tooth, and then pass on with nothing left for inheritance.

From this time on I shall take a different slant at the dentist and look upon him as one willing to make a sacrifice for the benefit of those owning aching teeth.

I am sorry now I said to my dentist last week that a man should go armed when he visits the dentist, that he may protect himself when the dentist finds a sensitive spot and insists on loitering and fussing about that particular locality.

I realize now what a severe loss the dentist's family would sustain. I also realize that when I make a mistake it is not charged to me, but my employers kindly bear the loss and let me off. Who ever heard of any one paying for the dentist's mistake? He gets it going and coming by losing his time and the value of materials as well.

I had my watch repaired the other day and the jeweler asked me to bring it back in a few days if it did not run on time. This jeweler hired some one to repair my watch, charged me a profit over and above what he paid the workman to tinker with my timer, and then put it up to me to look after the watch he had been paid to repair. In the end this jeweler will leave his business to his family.

What a yell would go up if a dentist pursued the same methods! I recall recently my dentist putting on a crown. There was one casting, one filling and one cementing. When the dentist was satisfied with the operation he said there would be a feeling of fullness for a few hours, after which all would be comfortable, and dumped me out of the chair. He did not ask me about what I paid him to find out, if the crown was too long or too short. He knew his profession and therefore knew the crown was right and would produce the result intended.

And to think this good man is unable to pass along to some one else my good will and my patronage, when the *Youth's Companion* has been profitably published for fifty years by Perry Mason when there never was a Perry Mason.



San Francisco Views: 1—Entrance to Chinatown. 2—"Treasure Island." 3—The Donahue Monument.

San Francisco

By FRANK MORTON TODD.



BORN a drowsy Spanish hamlet, fed on the intoxicants of a gold rush, developed by an adventurous commerce and a baronial agriculture, isolated throughout its turbulent history from the home lands of its diverse peoples and compelled to the outworking of its own ethical and social standards, San Francisco has evolved an individuality and a versatility beyond any other American city.

It mellowed the Puritan and disciplined the Cavalier. It appropriated the song and art of the Latin. Every good thing that Anglo-Saxon, Celt, Gaul, Iberian, Teuton or Mongolian had to offer, it seized upon and made part of its life.

San Francisco is today peculiarly the cosmopolitan city. Because its social elements are still so near their equal sources, and opportunity still beckons every man of talent, it is also the democratic city. And in spiritual freedom and forward impulse and the vivid hope of great achievement it is the one renaissance city of the present day.

In the early fifties, Horace Greeley said, "Go West, young man," and the ambitious young men have been going West ever since. From New York a man goes west to Chicago or St. Louis; from there it is west to Denver or Salt Lake, while the real West, the Pacific Coast, is usually termed the Far West.

To an Englishman, a five-day transcontinental trip in a Pullman is undoubtedly looked upon as a gigantic undertaking. What must it have been to the pioneer of '49 who traversed the Midland Trail in prairie wagons?

California is 750 miles long. Its coast line is as long as the Atlantic Coast from Boston to Charleston, South Carolina. In area, California is equal to the combined States of New York, New Jersey, Massachusetts, Rhode Island, Vermont, Maine, New Hampshire, Connecticut and Ohio.

And yet there are only as many people in California as there are in Chicago!

Does that spell opportunity to you?

The population of California in 1910 was 2,317,549, an increase of 60.1 per cent over that of 1900, when the State ranked twenty-first in population. We now rank twelfth. Japan with practically the same area supports over 40,000,000 people.

San Francisco bears the same relation to the Pacific Coast that New York does to the nation. For the year 1914, San Francisco ranked:

First in actual value of land and improvements per capita; third in average capital per national bank; fifth in building contracts; fifth in foreign imports; fifth in total national banking capital; seventh in foreign exports of domestic goods; eighth in bank clearings; eleventh in number of manufacturing establishments.

Over one-half the population are savings bank depositors.

The total amount expended in the rebuilding of San Francisco is equal to the cost of the Panama Canal.

San Francisco has a lower percentage of bonded debt to the assessed valuation than any larger city in the United States.

Of the eleven principal cities of the United States, San Francisco has the lowest percentage of mortgage indebtedness on real estate and the highest actual valuation of land and improvements per capita.

We have across the bay the three cities of Oakland, Alameda and Berkeley, with a combined population of 300,000. There are 60,000 people in Marin County to the north and San Mateo County to the south.

The social life of San Francisco is all that could be desired. Homes of all sizes, descriptions and rentals may be secured to suit one's needs. It is the greatest hotel city in the United States in proportion to its size, and is exceeded only by New York in the number and accommodations. The apartment house district has grown with great rapidity of late. Cottages, bungalows, homes on the installment plan, and residences in restricted building tracts, all can be found in desirable localities.

Clubs, both athletic and social, are numerous. The Y. M. C. A. has a handsome

building near the heart of the city. Churches of every description are to be found. San Francisco is probably the most cosmopolitan city on the continent. The largest French savings bank, library and hospital outside of France, are located here. Banks, newspapers and restaurants of every nationality bespeak of flourishing residents from all quarters of the globe. The theaters are new and numerous. It is not unusual to get the Eastern attractions via special train across the continent. The hospitals and sanatoriums are equipped with the best that the medical fraternity can find. Patients journey to San Francisco from Alaska to Mexico to receive medical attention.

According to the figures of the United States Weather Bureau there are more

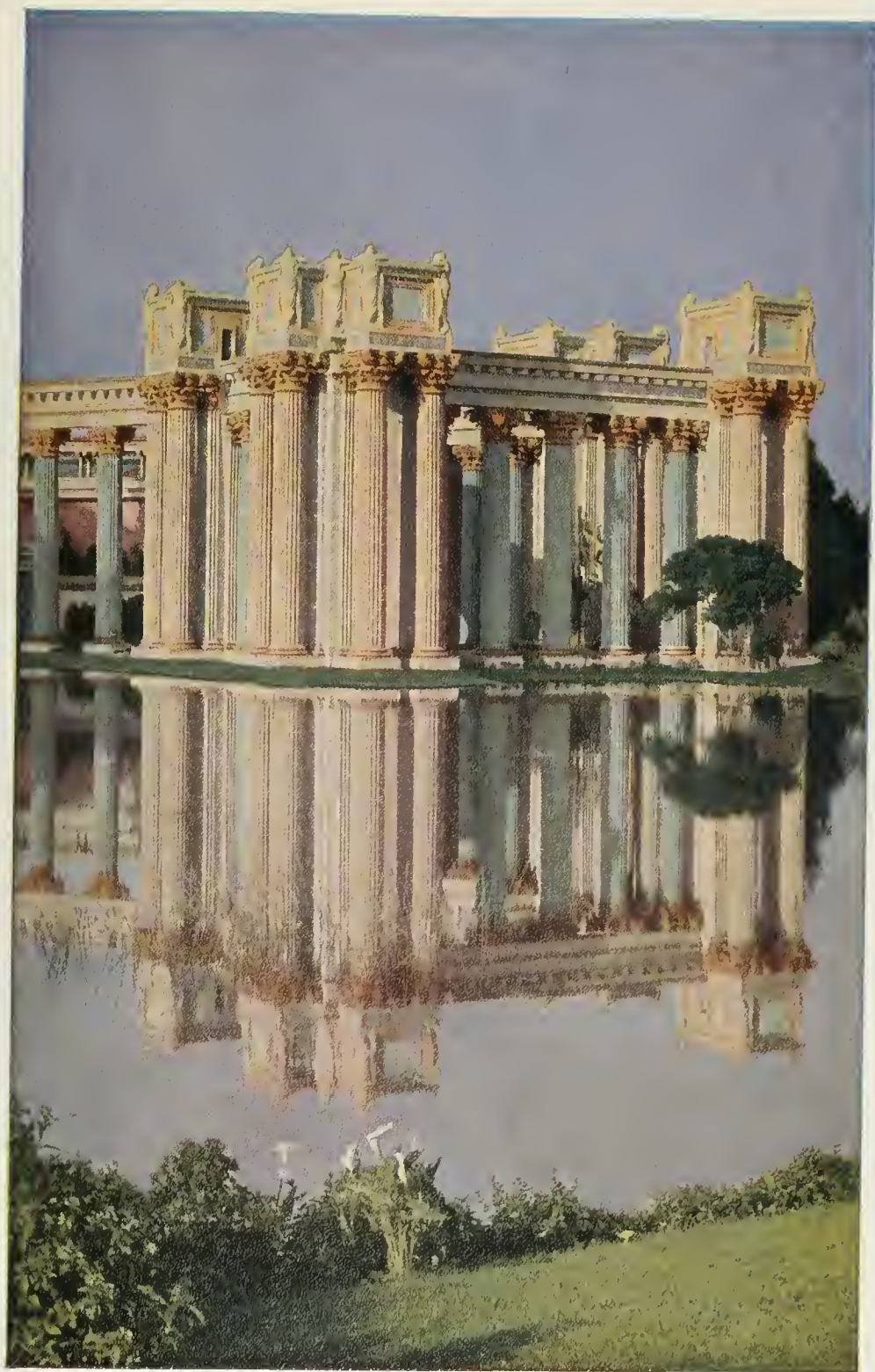
hours of sunshine yearly in San Francisco than in Boston, New York, Philadelphia, Chicago, Pittsburg or St. Louis. The average winter temperature is 51 degrees and the average summer temperature 59 degrees. The lowest temperature ever officially recorded here is 29 degrees *above* zero. Snow has fallen but six times in the city's history. Flowers are sold in the open air the year round at the principal down-town corners.

Perhaps by now you have some conception of what "Going West" may mean to you. To a city yet young, where a few of the first settlers are still living, situated on the largest land-locked harbor in the world, where competition is welcomed—with climate, health and happiness, we bid you enter. The Golden Gate bids you welcome.

"Better you had never come than say Farewell to San Francisco."



The Golden Gate of San Francisco, famous in song and story
Courtesy Traveler De Luxe



The Classic Colonnade of the Palace of Fine Arts reflected in the clear waters of the Fine Arts Lagoon



The Tower of Jewels rises, the dominant note of the Jewel City, its thousands of gems flashing in prismatic devices under the concentrated glow from fifty searchlights. The recesses of the colonnades upon its several terraces appear in an orange light; the columns are delicate green. The "novagems," imitating every kind of precious stone, are so hung that they move with the slightest stirring of the air; behind each is a tiny mirror, increasing the glittering mass of color.

The Panama-Pacific International Exposition

By the PUBLICITY BUREAU, PANAMA-PACIFIC INTERNATIONAL EXPOSITION

HISTORICAL



THE Panama-Pacific International Exposition has been authorized by Act of Congress of the United States as the nation's celebration of the construction and opening of the Panama Canal. It is officially located at San Francisco, State of California, the central and dominant harbor city of the Pacific Slope of North America. By proclamation of the President of the United States, the nations of the earth have been invited to participate therein.

The conduct of the enterprise is, by virtue of the Act of Congress, confided to the citizens of the State of California and of the city of San Francisco.

In April, 1910, at a mass meeting of the citizens of San Francisco, held in the Merchants' Exchange Building, the first step was taken, when, in a space of two hours, a fund of \$4,000,000 was raised by popular subscription. Later, by further pledges, this was increased to \$7,500,000.

Amending their constitution, as an enabling act, the people of California voted upon themselves a tax levy of \$5,000,000; and amending their charter, the citizens of San Francisco voted upon the city a bond issue of \$5,000,000. By Act of the State Legislature, the counties of the State were authorized to levy a tax of not to exceed 6 cents on the \$100 assessed valuation for county displays, from which it is estimated will be derived approximately \$3,000,000. Thus a sum of about \$20,000,000 has been raised entirely by the citizens of California, to enable them properly to perform the duties entrusted to them by the nation.

Actual construction work was publicly begun October 14, 1911. President Taft turning the first spadeful of earth; and on February 2, 1912, he made official proclamation of the celebration, inviting the nations to join therein.

The colossal task of planning, constructing and operating this great enterprise was entrusted to an organization selected as follows:

A committee of three, chosen by the people of San Francisco, selected a committee of 300, representative of the entire citizenry. That committee of 300 selected a Board of Directors of thirty. The Board of Directors chose its own officers and began work.

THE WONDERFUL EXPOSITION SITE

It is doubtful if, anywhere in the world, could be found a site for a great Exposition which surpasses or even equals this in its combination of accessibility, scenic beauty, and advantages.

It is a natural amphitheater with a floor about three miles long and from a third to a half mile wide, backed by low hills, flanked at each end by Government reservations and fortifications and fronting for its whole length on the beautiful blue San Francisco Bay. It lies just within the famous "Golden Gate." It is about two miles from the business center of San Francisco and on the hills behind it is the best residential district of the city. Magnificent mountain and marine views surround it, and whether the eye rests upon sea or shore or city height, there is the charm and thrill of impressive beauty.

The grounds comprise 635 acres, divided into three sections. In the center are grouped the eleven great exhibit palaces and Festival Hall. To the west, spreading fan-shaped along the bay, are located the pavilions of foreign nations and the imposing buildings of the States, while still beyond these are the livestock exhibit buildings and race track, covering 65 acres, the aviation field, and the drill grounds, capable of showing 10,000 troops in drill at one time. To the east of the exhibit palaces lie the 65 acres devoted to the amusement concessions.

The distribution of the acreage is summarized as follows: Concession district, 69.2; railway yards, wharves, and docks, 17.1; exhibit palace site proper, 217.3; street railway terminals, 2.3; State pavilion sites, 42.3; foreign pavilion sites, 49.7; aviation field, drill grounds and race track,

37.7; livestock section, 24.3; life-saving station, 1.1; United States Government exhibit, 12.7; available for additional exhibits, 10.3; miscellaneous acres, 141. Total area for definite purposes, 625 acres.

THE EXPOSITION AUDITORIUM

Designed by Messrs. John Galen Howard, Frederick H. Meyer and John Reid, Jr. The Exposition Auditorium is a four-story construction of steel and stone and graces the Civic Center of San Francisco. It will be a lasting and beautiful monument to the Panama-Pacific International Expo-

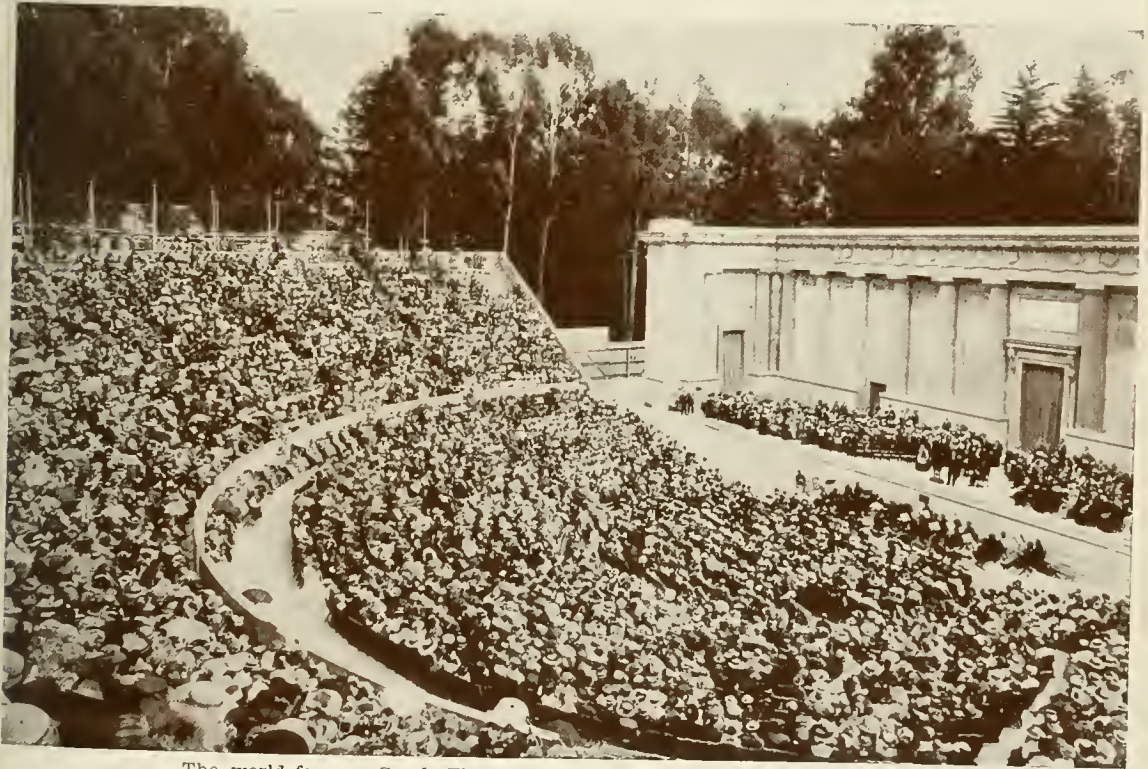
sition. The Exposition management has paid over \$1,000,000 for its erection and the City and County of San Francisco has paid \$1,000,000 for the site. The main auditorium of this building accommodates 12,000 persons.

CONVENTIONS

Over 500 conventions and congresses have chosen San Francisco as their meeting place in 1915. These cover a wide range of subjects, and it has been estimated that the attendance from delegates and their families and friends interested will reach at least half a million.

She sent for me in haste to come and see
What her condition for a cure might be.
Dear me! a patient—what a happy tone,
To have a patient and one all my own—
To have a patient and myself be feed,
Raised expectations very high indeed—
I saw a practice growing from the seed.

—WM. TOD HELMUTH, My First Patient.



The world-famous Greek Theater, at the University of California, Berkeley
Courtesy Traveler De Luxe



HOW TO SEE SAN FRANCISCO BY TROLLEY AND CABLE

TROLLEY TRIP No. 1

Nob Hill, the Golden Gate, Land's End, Sutro Heights, Sutro Baths, Cliff House and Seal Rocks.

Take California Street cable car going west, and transfer at Presidio Avenue to trolley line No. 1, marked "Cliff," continuing west on California Street. Return by the same line, but omit the transfer coming back.

TROLLEY TRIP No. 2

Market Street, Park Panhandle, Affiliated Colleges and the Heights overlooking the Sunset District and the Pacific Ocean; returning by the Twin Peaks Switch-back.

Take Hayes Street line No. 6, marked "Ninth Avenue," at the Ferry, or anywhere on Market Street, going westward. Returning, transfer at Ashbury Street to car going south, and transfer again at Eighteenth to Castro Street car No. 8, going toward Ferry. Ask for your transfer on boarding car.

TROLLEY TRIP No. 3

Nob Hill, Chinatown, Fishermen's Wharf, Crab and Fish Market, North Beach, Marine Reporting Station of the Chamber of Commerce, Immigration Station, Custom House Station, Quarantine; Latin Quarter, Portsmouth Square and the Robert Louis Stevenson Monument, Hall of Justice, Chinatown again.

Take "Market and Powell, Bay and Taylor" cable car, north bound, at Market and Powell Streets, or anywhere on Powell Street, or by transfer from any Market Street car, and go to terminus. Returning, take trolley car marked "15," at end of Powell Street, ask for transfer, and at Kearny and Sacramento Streets change to west bound cable. Ask for transfer again, and at Powell change to any south bound car.

TROLLEY TRIP No. 4

Presidio Military Reservation and Exposition Site at Harbor View, by way of O'Farrell Street and the retail and apartment house districts. Returning by Fillmore Street Hill, Nob Hill and Powell Street.

Take O'Farrell Street cable car at Mar-

ket and O'Farrell Streets, transfer at Union Street to trolley car marked "Presidio," west bound, and go to end of line. Returning, change at Fillmore Street to car bound south (up the hill) and at Washington Street change again to "Washington, Jackson, Powell and Market" cable car bound east.

TROLLEY TRIP No. 5

Union Iron Works, Potrero Industrial District, Islais Creek, Butcher Town, Bay View, Six-Mile House and Visitacion Valley; returning by way of the Mission.

Take Kentucky Street line No. 16, anywhere along Kearny Street, or at Third and Market; ask for transfer, and ride to terminus at Thirty-second Avenue South. Change here to "Visitacion Valley, Railroad Avenue and Mission" line. Returning, take "Cemeteries" car, No. 14, or San Mateo car, east bound, the first of which will take you down Mission Street, and the second to Fifth and Market.

TROLLEY TRIP No. 6

San Mateo by way of "The Mission," Daly City, the Cemeteries, Tanforan, Burlingame and Hillsboro. Returning by way of San Jose Avenue and Guerrero Street.

Take San Mateo car at Fifth and Market Streets. The fare to San Mateo is twenty-five cents. Returning, pay twenty cents to Daly City and there change to Ocean View line No. 26, marked "Ferries and Daly City (or Ocean View) via Mission, Guerrero Street and San Jose Avenue."

TROLLEY TRIP No. 7

Mission Street, the Mint, Postoffice, National Guard Armory, Mission residence and business district, great viaduct, Sutro Forest, Ocean Avenue, Lake Merced, Sloat Boulevard, Great Highway and the Ocean Beach; returning through Parkside and the Sunset district, along south side of Golden Gate Park by Switch-Back Railway on the slope of Twin Peaks, down through "The Mission" and the industrial district, to Third Street and up to Market.

Take Ingleside line No. 12, on Mission Street, going westward. Returning, transfer at Thirty-fifth Avenue to Parkside car

going northward; transfer again at Twentieth Avenue and Lincoln Way to line 20, "Ellis and Ocean" car going east; at Waller and Stanyan, transfer to "Third and Harrison and Park" car, going east; at Third Street transfer to any Third Street car bound north, to Third and Market Streets. Ask for your transfer when you board the cars.

TROLLEY TRIP No. 8

Buena Vista Park, and view over city, bay and ocean.

Take Haight Street line No. 7, on Market Street, and get off at Buena Vista Park entrance, opposite the end of Lyon Street. Return by the same way.

TROLLEY TRIP No. 9

By the sightseeing car of the United Railroads. Fare, 75 cents, which includes entrance fee to Sutro Museum and Baths.

Lower Market Street, Post Street and the retail district, Union Square, Dewey Monument, Presidio, Golden Gate, Land's End, Sutro Baths and Museum, Cliff House and Seal Rocks, Lincoln Park, Fort Miley, Golden Gate Park, Park Panhandle, Ashbury Heights, Affiliated Colleges, Mission Dolores, through the Mission district and back to Market Street.

Car leaves its station inside Ferry Loop at 10 a. m. and 2 p. m., and makes a stop at Montgomery, Post and Market Streets at 10:05 a. m. and at 2:05 p. m.

POINTS OF INTEREST IN SAN FRANCISCO AND LINES OF CARS BY WHICH THEY MAY MOST READILY BE REACHED

Angel Island, Goat Island, Alcatraz Island—These insular military reservations are reached by Government steamer, on the bay. A pass is required, obtainable from the quartermaster at the Presidio. To land at Alcatraz (the military prison), an additional pass from the commanding officer at the Presidio is necessary.

Affiliated Colleges—At Third and Parnassus Avenues. Can be reached by Hayes No. 6.

Baker's Beach—South part of west shore of Presidio, to bluffs north of Lincoln Park. Can be reached by Sutter and California No. 1, marked "Cliff."

Baseball Grounds—At Fifteenth and Valencia Streets. Can be reached by Valencia No. 9, Guerrero No. 10, Eighteenth and Park line (no number).

Buena Vista Park—Lies south from Haight Street, between Broderick and Masonic Avenue. Reached by Haight No. 7 and Hayes No. 6.

California Development Board's Exhibit of California Products—Ferry building, foot of Market Street. Can be reached by any Market or Mission Street car, or Sac-

ramento Street line, or Union Street line, running eastward, or municipal car lines, A, B, C, D and E.

California Market—On California Street, between Kearny and Montgomery. Reached by Kearny No. 15, Kentucky No. 16, Tenth and Montgomery (no number), and by California Street cable.

Chinatown—From Kearny to Stockton, and California to Pacific Streets. Reached by Kearny No. 15, Kentucky No. 16, Tenth and Montgomery (no number), Sacramento cable and California Street cable.

Cliff House—At Forty-ninth Avenue and Ocean Boulevard. Reached by Sutter and California No. 1, marked "Cliff," Sutter and Clement No. 2, McAllister No. 5, Ellis and Ocean No. 20, and by Geary Street municipal line.

Free Library—Hayes and Franklin Streets. Can be reached by Hayes No. 6.

Fort Mason—From Van Ness Avenue to Laguna Street, and Bay Street to the beach. Can be reached by the Polk Street line (no number), municipal car lines F and H, and by O'Farrell, Hyde and Jones Street cable.

Ferry Building—Foot of Market Street. Can be reached by the following lines direct, and from intersecting lines by transfer: Turk and Eddy No. 4, McAllister No. 5, Hayes No. 6, Haight No. 7, Market No. 8, Valencia No. 9, Guerrero No. 10, Mission and Twenty-fourth No. 11, Ingleside No. 12, Cemeteries No. 14, Ocean View No. 26, Kentucky No. 16, Howard (no number), Folsom (no number), Harrison (no number), and Sacramento cable (no number), municipal car lines A, B, C, D and E.

Fort Winfield Scott—An old-time relic of early days. Stands at the entrance of the Golden Gate and is garrisoned by a small number of soldiers. It is equipped with old-style guns, and is a most interesting relic. One must have a pass from the commanding officer to obtain admission.

Golden Gate Park—Reached by Turk and Eddy No. 4, Hayes No. 6, Ellis and Ocean No. 20, McAllister No. 5, Haight No. 7, Hayes and Ellis No. 21, Eighteenth and Park (no number), and by municipal line A.

Hall of Justice—Kearny, between Washington and Clay Streets. Can be reached by Third and Kearny No. 15, Kentucky No. 16, Tenth and Montgomery line (no number).

Hunter's Point Drydocks—Between First and Third Avenues South and the bay. Nearest point reached by the Kentucky line No. 16. Get off at Revere Avenue and walk southeast on Revere.

Ingleside—Northeast of Lake Merced. Can be reached by the Ingleside No. 12 and the Parkside line (no number).

Latin Quarter—Can be reached by Presidio and Ferries (Union Street) line, Third and Kearny No. 15, Kentucky No. 16, and Powell cable line (no number).

Lake Merced—(See Ingleside).

Lincoln Park—At Thirty-third Avenue and Clement Street. Can be reached by Sutter and California No. 1, and Sutter and Clement No. 2.

Lone Mountain—Between Masonic and Parker Avenues, St. Rose's Avenue and

Turk Street. Can be reached by Sutter and Clement No. 2, and McAllister No. 5, and by municipal lines A, B and C.

Mining Bureau—Ferry Building, foot of Market Street. Open 10 a. m. to 5 p. m. A very valuable collection of mineral specimens.

Mint—West side of Fifth Street, corner Mission Street. The Mint has one of the finest numismatic collections in the world. It can coin a million ounces a month, and employs 130 men and 42 women. Public admitted free, 9 to 11:30 a. m. and 12:30 to 2:30 p. m.

Mission Dolores—At Sixteenth and Dolores Streets. Take Market Street line No. 8, transfer at Church Street to Fillmore and Sixteenth line No. 22, south bound, and get off at Sixteenth Street. Can be reached by Guerrero line No. 10, Eighteenth and Park line (no number), Fillmore and Sixteenth line No. 22, and Mission and Richmond line No. 24.

Nob Hill—Between California and Washington Streets, and Powell and Leavenworth. Reached by the Powell cable and Sacramento cable (no numbers); also by California Street cable.

Pacific Heights—Can be reached by Sutter and Jackson No. 3, Washington and Jackson cable (no number), and Pacific Avenue cable (no number).

Pacific Mail Dock—Located at foot of Second Street. Can be reached by a short walk from Third and Kearny No. 15, Kentucky No. 16, and First and Fifth Streets line (no number), and the Bryant Street line (no number).

Panama-Pacific International Exposition—At Harbor View, from Fort Mason to the Presidio, and from the water half a mile inland. Take any Sutter Street car, municipal lines D, E, F and H, and transfer to Fillmore. To reach State and foreign buildings in the Presidio, take Presidio and Ferries car (Union Street line) from the Ferry, or on transfer from the O'Farrell Street line, and go to terminus.



CEDARS OF LEBANON

Flat-Topped Cypressess, Found Nowhere Else in America, Though Known in Japan and Called in Palestine the Cedars of Lebanon, on the Bold Promontories of the Monterey Coast Along the Spectacular Forty Miles of the Del Monte Drive

Postoffice—This elegant building, at the corner of Seventh and Mission Streets, was completed in 1905, and is one of the most elegant and substantial structures west of the Rocky Mountains.

Presidio of San Francisco—Reached by Sixteenth and Fillmore line No. 22, and Sutter and Jackson line No. 3. Also by municipal E (Union Street) line starting at the Ferry Building, or by transfer at Hyde and Union from Hyde and O'Farrell Street line, or at Polk and Vallejo from Polk Street line.

Russian Hill—From Leavenworth to Larkin, and Union to Chestnut Street. Reached by Ninth and Polk line (no number).

State Mining Bureau and Mineral Museum—Ferry Building, foot of Market Street. Can be reached by any Market or Mission Street car, or Sacramento Street line, or Union Street line, running eastward, or municipal car lines A, B, C, D and E.

Sutro Baths and Museum—(See Cliff House).

Telegraph Hill—(Nearest approach) Third and Kearny No. 15. The easiest ascent is eastward on Greenwich Street, from Powell.

Temporary City Hall—Between Eighth and Ninth Streets on Market. Can be reached by Market No. 8, Haight No. 7,

Valencia No. 9, Hayes No. 6, and Ninth and Polk Streets No. 19.

Third and Townsend Depot—Reached by Third and Kearny No. 15, Kentucky No. 16, Ellis and Ocean No. 20, Harrison (no number) from the ferry.

Twin Peaks—Reached by the Eighteenth and Park line (no number).

Union Iron Works—Located at Twentieth and Illinois Streets. Reached by Kentucky No. 16.

United States Mint—At Fifth and Mission Streets. Reached by Turk and Eddy No. 4, McAllister No. 5, Hayes No. 6, Haight No. 7, Market No. 8, Valencia No. 9, Guerrero No. 10, Mission and Twenty-fourth No. 11, Ingleside No. 12, Cemeteries No. 14, Ocean View No. 26, and San Bruno No. 25.

U. S. Custom House, and Appraiser's Building—Located between Sansome and Battery, Washington and Jackson Streets. Reached by Sacramento cable (no number), Sixth and Sansome (no number), and Presidio and Ferries (Union Street).

U. S. Court House and Postoffice Building—At Seventh and Mission Streets. Reached by McAllister No. 5, Hayes No. 6, Haight No. 7, Market No. 8, Valencia No. 9, Guerrero No. 10, Mission and Twenty-fourth No. 11, Ingleside No. 12, Cemeteries No. 14, Mission No. 18, and Ocean View No. 26.

SHORT OUT-OF-TOWN TRIPS

Mt. Tamalpais and Muir Woods: Start from Ferry Depot via boat.

Triangle Trip via Northwestern Pacific Railroad: Via boat from Ferry Depot.

Ocean Shore Scenic Trip: Depot Twelfth and Mission Streets.

Key Trolley Trip via Key Route: Via boat from Ferry Depot.

Mare Island (U. S. Navy Yard) and Napa Valley Electric Route: Monticello Steamship Co., from Clay Street Wharf.

Down the Peninsula: Via S. P. train, Third and Townsend Streets, or by United Railroads' Electric Line.

Netherland Route, Sacramento River: From Pacific Street Wharf.

Triple S Trip, San Francisco, Sacramento, Stockton: California Transportation Co., from Jackson Street Pier.

Mt. Hamilton Observatory: From San Jose.

Before you leave California, see Lake Tahoe, Mariposa Big Trees, The Yosemite Valley, American River Canyon, Lake County's Alpine scenery, Mt. Shasta, The Geysers, Desolation Valley, Catalina Island, Southern California, Mission San Juan Bautista, Santa Cruz, Monterey Bay and Redwood Big Tree Grove.



BIG BROTHER TO ITALIAN LAKES

Lake Tahoe, A Gigantic Jewel Set in the Snowy Granite of the Sierra Nevada Mountains on the California-Nevada Boundary

Courtesy Sunset Magazine.

TELEGRAPH, CABLE AND EXPRESS OFFICES

Western Union Telegraph Co. Main office, Pine and Montgomery. Messages can be telephoned in by calling for "Western Union." Always open.

American District Telegraph Company messengers furnished at all Western Union offices.

Federal Telegraph Co., Merchant's Exchange Building; 9 a. m. to 5:30 p. m.

149 Montgomery; 7 a. m. to 8 p. m.; Sundays, 10 a. m. to 2 p. m., and 4 p. m. to 8 p. m.

Marconi Wireless Telegraph Co. of America, Merchants' Exchange Building. Office 8:30 to 5:30. Station always open.

Postal Telegraph Cable Co., northeast corner Market and Battery (main office).

EXPRESS OFFICES

Adams Express Co. Tracing, delivery and claim department, 54 Post Street. Wagon and call department, Ferry Building. Money orders, travelers' checks, foreign postal remittances, money paid by telegraph.

Globe Express Co. Tracing, delivery and claim department, 54 Post Street. General Superintendent's office, Mills Building. Wagon and call department, Ferry Building. Money orders, travelers' checks, foreign postal remittances, money paid by telegraph.

Wells Fargo & Co. Main office, Second and Mission Streets. Money orders, travelers' checks, foreign postal remittances, money paid by telegraph.

HOSPITALS AND SANATORIUMS

The hospitals and sanatoriums of San Francisco are all new and of modern steel frame, fireproof construction. Many of them have training schools for nurses in connection therewith.

The City and County Hospital, now about complete, under a two and a half million dollar bond issue, will comprise three distinct groups of buildings: the main group, the tuberculosis group, and the infectious group, with total accommodations for 852 beds.

The main group consists of the Administration Building, the Nurses' Home, four Ward Buildings, Service Building, Power House and Laundry, and the Morgue.

The principal hospitals of San Francisco, with their addresses, are as follows:

Adler Sanatorium, Broadway and Van Ness Avenue.

*Children's Hospital, California and Maple Streets.

*City and County Hospital, Potrero Avenue, between Twenty-first and Twenty-third.

French Hospital, Geary Street, between Fifth and Sixth Avenues.

*German Hospital, Noe, between Duboce Avenue and Fourteenth.

*Hahnemann Hospital, California and Maple Streets.

*Have training school for nurses.

Isolation Hospital, Army and De Haro.

*Lane Hospital, Clay and Webster Streets.

*Mount Zion Hospital, Post and Scott Streets.

*McNutt Hospital, Pine and Hyde Streets.

Quarantine Hospital, Angel Island.

Southern Pacific Hospital, Fell and Baker Streets.

*St. Francis Hospital, Hyde and Bush Streets.

*St. Luke's Hospital, Twenty-seventh and Valencia Streets.

*St. Mary's Hospital, Stanyan and Hayes Streets.

*St. Winifred's Hospital, 1065 Sutter Street.

Trinity Hospital, 1560 Page Street.

United States Marine Hospital, Fourteenth and Lake Streets.

Letterman General Hospital (U. S. Army), Presidio.

Florence N. Ward Sanatorium, Bush and Hyde Streets.

*University of California Hospital, Second and Parnassus Avenues.

Morton Hospital, 775 Cole Street.

St. Joseph's Hospital, Park Hill and Buena Vista Avenues.

Five Emergency Hospitals are as follows:
Central Emergency Hospital, Stevenson
Street near Eighth.

Harbor Emergency Hospital, 7 Clay
Street.

Park Emergency Hospital, Stanyan
Street near Waller.

Potrero Emergency Hospital, 1152 Ken-
tucky Street.

Mission Emergency Hospital, Twenty-
third Street and Potrero Avenue.

CHURCHES

First Baptist, junction of Market, Octa-
via and Waller Streets.

Hamilton Square Baptist, Post Street, be-
tween Fillmore and Steiner.

First Christian, Duboce Avenue and Noe
Street.

West Side Christian, Bush Street, be-
tween Scott and Divisadero.

First Church of Christ, Scientist, Cali-
fornia and Franklin Streets.

First Congregational Church, Post and
Mason Streets.

Mission Congregational, Nineteenth and
Dolores Streets.

Grace Cathedral (Episcopal), Taylor and
Sacramento Streets.

Trinity Church (Episcopal), Bush and
Gough Streets.

St. Luke's Holy Catholic, Van Ness Ave-
nue and Clay Street.

Eastern Orthodox Catholic, Van Ness
Avenue and Green Street.

Temple Emanu-el (Hebrew), Sutter
Street, between Stockton and Powell.

Temple Israel (Hebrew), California and
Webster Streets.

Geary Street Temple (Hebrew), Geary
Street, near Fillmore.

First English Lutheran, Geary Street,
between Gough and Octavia.

Evangelical Lutheran, St. Paul's, Eddy
and Gough Streets.

First Methodist Episcopal, Clay and Lar-
kin Streets.

Central Methodist Episcopal, O'Farrell
and Leavenworth Streets.

California Street Methodist Episcopal,
California and Broderick Streets.

Grace Methodist Episcopal, Twenty-first
and Capp Streets.

Calvary Presbyterian, Jackson and Fill-
more Streets.

First Presbyterian, Van Ness Avenue and
Sacramento Street.

St. John's Presbyterian, Arguello Boule-
vard and Lake Street.

Trinity Presbyterian, Twenty-third and
Capp Streets.

First United Presbyterian, Golden Gate
Avenue, between Steiner and Pierce Streets.

St. Mary's (Catholic), Van Ness Avenue
and O'Farrell Street.

St. Mary's (Catholic), Grant Avenue and
California Street.

St. Francis of Assisium (Catholic), Co-
lumbus Avenue and Vallejo Street.

St. Patrick's (Catholic), 744 Mission
Street.

St. Ignatius (Catholic), Hayes and
Schrader Streets.

St. Boniface (German Catholic), Golden
Gate Avenue, between Jones and Leaven-
worth.

Mission Dolores (Catholic), Sixteenth
and Dolores Streets.

Nuestra Senora de Guadalupe (Catholic),
Broadway, between Powell and Mason
Streets.

St. Dominic's (Catholic), Pierce and
Bush Streets.

Sts. Peter and Paul's (Catholic), Grant
Avenue and Filbert Street.

Second New Jerusalem Church (Sweden-
borgian), Lyon and Washington Streets.

First Unitarian, Geary and Franklin
Streets.

GENERAL INFORMATION

AUTOMOBILE RATES

CARRYING NOT MORE THAN FOUR PASSENGERS

First one-half hour or fraction thereof, \$2.00; for each hour thereafter at the rate of, per hour, \$3.50. Excepting: From the Ferry at the east end of Market Street or from Third and Townsend Streets, or other ferry steamboat or railway depots, to hotels:

TAXICAB RATES

TARIFF No. 1 (ONE OR TWO PASSENGERS)

First three-fifths of a mile or fraction thereof, 60 cents; each one-fifth of a mile thereafter, 10 cents; each three minutes of waiting, 10 cents.

TARIFF No. 2 (THREE OR FOUR PASSENGERS)

First one-third of a mile or fraction thereof, 60 cents; each one-sixth of a mile thereafter, 10 cents; each three minutes of waiting, 10 cents; for each additional passenger over four persons for the entire trip, 50 cents. When charges for trip or trips exceed the rates per hour, charges shall be made by the hour. The rate by the hour shall be \$3.50.

FLAT RATES TO DOWN-TOWN HOTELS

The city ordinance requires taxicabs, automobiles and carriages to carry passengers from the Ferry Depot, Third and Townsend Street Depot or steamboat landings to any down-town hotel in the "Down-town Hotel District" for a flat rate of \$1.00 for from one to four passengers; each additional passenger, 25 cents; trunks, 50 cents.

FOREIGN CONSULS

Argentina—Boutwell Dunlap, First National Bank Building.
Austria-Hungary—Dr. Josef Goricar, 311 California Street.
Belgium—M. F. Biolley, 311 California Street.
Bolivia—Carlos Sanjines, 235 Montgomery Street.
Brazil—Archibald Barnard, Monadnock Building.
Chile—Arturo Lorca, 311 California Street.
China—Kee Owyang, 653 Kearny Street.
Colombia—Francisco Valencia, 311 California Street.
Costa Rica—Dr. P. de Obario, 510 Battery Street.
Denmark—J. E. Boggild, Mills Building, Montgomery Street.
Dominican Republic—John Barneson, 310 Sansome Street.
Ecuador—Juan Chavez, 311 California Street.
France—Raphael Monnet, 108 Sutter Street.
German Empire—Franz Bopp, 201 Sansome Street.
Great Britain—Alexander Carnegie Ross, 268 Market Street.
Greece—Richard de Fontana, 693 Mission Street.
Guatemala—Juan Padilla Matute, 460 Montgomery Street.
Honduras—Gen. F. S. Vivas, 1205 Leavenworth Street.
Italy—C. Danco, 135 Stockton Street.
Japan—Yatsutaro Numano, 221 Sansome Street.
Liberia—Ray P. Saffold, 568 Golden Gate Avenue.
Monaco—Ray P. Saffold, 568 Golden Gate Avenue.
Mexico—Ant. L. Grajeda, 519 California Street.

Netherlands—G. J. G. Marsily, 628 Montgomery Street.
Norway—Henry Lund, Marine Building, 214 Front Street.
Nicaragua—Adolf Vivas, 311 California Street.
Panama—Alejandro Briceno, 510 Battery Street.
Paraguay—Eustorjio Calderon, 561 Hyde Street.
Persia—Harry Thornton Moore.
Peru—Enrique Grau, 510 Battery Street.
Portugal—Simao Lopes Ferreira, 347 Front Street.
Russia—Pierre Rodjestwensky, 461 Market Street.
Salvador—E. Melia, 460 Montgomery Street.
Spain—Valle de Salazar, 817 Pacific Building.
Sweden—Wm. Maston, 268 Market Street.
Switzerland—Antoine Borel, 440 Montgomery Street.
Turkey—Maurice Hall, 250 Powell Street.
Uruguay—O. M. Goldaracena, 4 Columbus Ave.
Venezuela—Jos. L. Eastland, Merchants' Exchange.

HEADQUARTERS OF LEADING LODGES

Masonic Grand Lodge, Masonic Temple, Hayes Street and Van Ness Avenue.
 I. O. O. F. Grand Lodge, Seventh and Market Streets.
 Ancient Order of Foresters, 337 Pacific Building.
 A. O. U. W., 311 Pacific Building.
 Elks, 540 Powell Street.
 Foresters of America, Grant Building, Seventh and Market Streets.
 Red Men, 240 Golden Gate Avenue.
 Eagles, 1695 Market Street.
 Maccabees, First National Bank Building, Oakland.
 Knights of Pythias, 726 Pacific Building.
 N. S. G. W., 135 Stockton Street.
 Hermann Sons, 2249 Clement Street.
 Sons of St. George, 157 Nev Street.
 Royal Arcanum, 338 Pine Street.
 Druids, Laguna and Hayes Streets.
 Woodmen of the World, 2140 Market Street.
 Young Men's Institute, 92 Sanchez Street.

PRINCIPAL CLUBS

Argonaut, Post and Powell Streets.
 Army and Navy, 126 Post Street.
 Bohemian, Post and Taylor Streets.
 California, 1750 Clay Street.
 Century, 1355 Franklin Street.
 Cercle de L'Union, 220 Post Street.
 Camera, 833 Market Street.
 California Lawn Tennis, Scott and Bush Streets.
 Commonwealth, 153 Kearny Street.
 Concordia, 1141 Van Ness Avenue.
 Corinthian Yacht Club, Tiburon, Marin County, California.
 Elks, Powell, between Sutter and Bush Streets.
 Family, 545 Powell Street.
 Forum, 220 Post Street.
 Olympic, 524 Post Street.
 Pacific Union, California and Mason Streets.
 Press, Powell and Sutter Streets.
 Presidio Golf Club, 8 Presidio Terrace.
 San Francisco Commercial Club, Merchants' Exchange Building.

S. F. Scottish Thistle, 121 Larkin Street.
 S. F. Turn Verein, 2466 Sutter Street.
 S. F. Yacht Club, Union Trust Building.
 Southern, California Street near Stockton.
 Town and Country, 218 Stockton Street.
 Transportation, Palace Hotel.
 Union League, Powell and O'Farrell Streets.
 University, Powell and California Streets.

STEAMSHIP OFFICES

Alaska Pacific S. S. Co., 65 Market Street.
 California Atlantic S. S. Co., 418 Merchants' Exchange Building.
 Canadian Pacific S. S. Co., 645 Market Street.
 Hamburg American Line, 160 Powell Street.
 Independent S. S. Co., 648 A Market Street.
 Matson Navigation Co., 268 Market Street.
 North German Lloyd, 250 Powell Street.
 North Pacific S. S. Co., 654 Market Street.
 Oceanic S. S. Co., 673 Market Street.
 Pacific Coast S. S. Co., 653 Market Street.
 Pacific Mail S. S. Co., Flood Building.
 Pacific Navigation Co., 678 Market Street.
 S. F. & Portland S. S. Co., Flood Building.
 Toyo Kisen Kaisha, Merchants' National Bank Building.
 Union Steamship Co., Mills Building.
 Anchor Line, 878 Market Street.
 Cunard Line, 42 Powell Street.

STEAMSHIP PIERS

Union Ferry Slips—Ferries to
Berkeley, Point Richmond, Sausalito, Alameda and Oakland
 Connecting with

Southern Pacific Main Line Trains

Pier 3 and 5—Bay and River Boats.
 Pier 7—Pacific Navigation Steamship Co.
 Piers 9 and 11—Pacific Coast Steamship Co.
 Pier 13—North Pacific Steamship Co. and South Coast Steamship Co.
 Pier 19—Kosmos Steamship Co.
 Pier 21—Oceanic Steamship Co.
 Piers 23 and 25—American Hawaiian Steamship Co.
 Pier 27—American Hawaiian Steamship Co.
 Pier 10—Alaska Pacific Steamship Co.
 Pier 12—Union Steamship Co.
 Pier 34—Toyo-Kisen Kaisha Steamship Co.
 Pier 36—California Atlantic Steamship Co.
 Pier 48—Matson Navigation Co.
 Pier 40—San Francisco and Portland Steamship Co.
 Piers 42 and 44—Pacific Mail Steamship Co.

SOUTHERN PACIFIC

LOCAL FERRY TRAINS VIA OAKLAND PIER

To Oakland, Sixteenth Street and Berkeley via Shattuck Avenue and Ellsworth Street Line—Daily—From 6:00 a. m. and every 20 minutes until 8:20 p. m., inclusive; then 9:00, 9:40, 10:20, 11:00 and 11:40 p. m., 12:20 and 1:20 a. m. Additional service Saturdays and Sundays only—8:40 p. m., 9:20, 10:00, 10:40, 11:20 p. m.

To Oakland, Washington, Broadway, East Oakland, Fruitvale and Melrose, via Seventh Street—Daily—From 6:00 a. m., and every twenty minutes until 8:20 p. m., inclusive; then 9:00, 9:40, 10:20,

11:00 and 11:40 p. m., 12:20 a. m. and 1:20 a. m. Additional service, Saturdays and Sundays only—8:40 p. m., 9:20, 10:00, 10:40 and 11:20 p. m.

To Berkeley, via California Street and West Berkeley, Albany via Ninth Street Lines—Daily—*6:00 a. m., *6:20, *6:40, *7:00 and every 20 minutes until 8:20 p. m., inclusive; then 9:00, 9:40, 10:20, 11:00, 11:40 p. m., 12:20 and 1:20 a. m. Additional boats Saturdays and Sundays only.

Horseshoe via Seventh Street to Fruitvale and Third and Pacific Avenue, Alameda, North Side—Daily—From 6:00 a. m., *6:20, 6:40, 7:00, 7:20,

7:40, 8:00, 8:20, 8:40, 9:40, 11:00 a. m.; then 12:20 p. m., 1:40, 3:00, 4:00, 4:20, 4:40, 5:00, 5:20, 5:40, 6:00, 6:20, 6:40, 7:00, 7:40, 9:00, 10:20, 11:40 p. m.

To Oakland, Fourteenth and Franklin Streets, via Oakland, Sixteenth and Eighteenth Streets—Daily—From *6:00 a. m., *6:20, *6:40 a. m., and every twenty minutes until 8:20 p. m. inclusive; then 9:00, 9:40, 10:20, 11:00, 11:40 p. m., and 12:20 a. m. Additional boats Saturdays and Sundays only, 8:40 p. m., 9:20, 10:00, 10:40 and 11:20 p. m.

To Stonehurst (Steam Service)—*6:00, *6:40, *7:20, *8:00, *8:40, *9:00, *9:40, *10:00 a. m., *1:20 p. m., *2:00, *3:00, *3:20, *4:00, *5:00, *5:40 and *6:20 p. m.

VIA ALAMEDA PIER

To Oakland and Alameda—Daily—From 6:15, 6:45 a. m., and then 15 and 45 minutes past the hour until 7:45 p. m.; then 8:30, 9:15, 10:00, 10:45, 11:30 p. m. and 12:15 a. m.

To Alameda, North and South Side Lines—Daily—From 6:15, 6:45 a. m. and 15 and 45 minutes past the hour, until 7:45 p. m.; then 8:30, 9:15, 10:00, 10:45, 11:30 p. m. and 12:15 a. m.

*Daily. §Sundays excepted.

OAKLAND HARBOR FERRY

AUTOMOBILES, MOTORCYCLES AND VEHICLES

From San Francisco, South End Ferry Building, for Broadway Wharf, Oakland—From 6:00 a. m. daily and every forty-five minutes until 9:00 p. m., inclusive; then *11:15 p. m., *12:00 midnight, *1:00 a. m. Additional boats, *9:45 p. m., **10:00 p. m. and §10:30 p. m.

From Broadway Wharf, Oakland, for San Francisco—From 6:00 a. m. daily and every forty-five minutes until 9:00 p. m. inclusive, then 12:00 midnight and 1:00 a. m. Additional boats *9:45 p. m., **10:00 p. m., §10:30 p. m., **11:00 p. m. and §11:15 p. m.

*Daily. §Sundays excepted.

PRINCIPAL RAILROAD TICKET OFFICES

Baltimore and Ohio Ry., Monadnock Building.
 Burlington Route, 685 Market Street.
 Canadian Pacific Ry., 645 Market Street.
 Chicago Great Western R. R., 201 Monadnock Building.
 Chicago, Milwaukee and St. Paul Ry., 22 Powell Street.
 Chicago and Northwestern Ry., 878 Market Street.
 Denver and Rio Grande R. R., 665 Market St.
 Erie Ry., 26 Powell Street.
 Great Northern Ry., 665 Market Street.
 Illinois Central R. R., 28 Powell Street.
 Key Route, 687 Market and Ferry Building.

Mt. Tamalpais Scenic Ry., 687 and 874 Market Street.

Missouri, Kansas and Texas Ry., Hearst Bldg.

Missouri Pacific Ry., 656 Market Street.

National Rys. of Mexico, 303 Monadnock Bldg.

New York Central Lines, 689 Market Street.

Nickel Plate Road, Hearst Building.

Northern Pacific Ry., 685 Market Street.

Northwestern Pacific Ry., 874 Market Street.

Oregon-Washington R. & N. Co., 42 Powell St.

Ocean Shore Ry., 52 Eleventh Street.

Pennsylvania Railroad, 40 Powell Street.

Rock Island Lines, 691 Market Street.

Salt Lake Route, 680 Market Street.

Santa Fe System, 673 Market Street.

Southern Pacific, Palace Hotel and 884 Market Street.

Southern Pacific (Atlantic System), 30 Powell Street.

Texas and Pacific Ry., Postal Telegraph Bldg.

Union Pacific R. R., Powell and Ellis Streets.

Wabash Railroad, Monadnock Building.

Washington-Sunset Route, 874 Market Street.

Western Pacific Ry., 665 Market Street.

KEY ROUTE FERRIES

Leave San Francisco Ferry Building for Oakland, Piedmont, Northbrae, Berkeley, Claremont, Albany, Richmond—Daily except as noted—*6:00, 6:20, 6:40, 7:00, 7:20, 7:40, 8:00, 8:20, 8:40, 9:00, 9:20, 9:40, 10:00, 10:20, 10:40, 11:00, 11:20, 11:40 a. m., 12:00 m., 12:20, 12:40, 1:00, 1:20, 1:40, 2:00, 2:20, 2:40, 3:00, 3:20, 3:40, 4:00, 4:20, 4:40, 5:00,

*5:15, †5:20. *5:30, †5:40, *5:45, 6:00, 6:20, 6:40, 7:00, 7:20, 7:40, 8:00, †8:20, 8:40, †9:00, 9:20, †9:40, 10:00, †10:20, 10:40, †11:00, 11:20 p. m., 12:00 midnight, 1:00 a. m.

*Daily. †Sundays only. ‡Saturday and Sunday only.

The 1 a. m. boat from San Francisco connects with trains for all lines excepting the Albany branch.

The 8:00 p. m., 9:20 p. m. and 10:40 p. m. daily except Saturdays and Sundays and the 12:00 p. m. daily run to Albany via Northbrae.

The 8:40 p. m. and 10:00 p. m. daily except Saturday and Sunday and 11:20 p. m. daily run to Northbrae via Albany.

Schedule time between San Francisco and Oakland, Berkeley, and Piedmont, 35 minutes; Claremont, 40 minutes; Northbrae and Albany, 45 minutes.

CAR SIGNS

Berkeley trains carry White Discs.

Oakland trains carry Red Discs for Twenty-second Street and Red and Blue for Twelfth Street.

Piedmont trains carry Blue Discs.

Claremont trains carry Green Discs.

Northbrae trains carry White Discs with a Red Arrow.

For Albany take the Northbrae train at the Pier Terminal and transfer at University Avenue.



Pit River above Big Bend. Ten thousand horsepower of potential energy in every mile



A Nearby View of Mount Lassen Quiescent



Photo copyrighted 1914 by B. F. Loomis
 Mount Lassen in Eruption. On the Road to Manzanita Lake
 Courtesy Sunset Magazine.

List of Exhibitors and their Representatives

THE DENTAL MANUFACTURING CO., LTD., London, W., England—George Chalk and A. H. Parry.

THE C. V. MOSBY CO., Medical Publishers, St. Louis, Mo.—C. V. Mosby.

THE HARVARD CO., Canton, Ohio—E. L. Monnot.

ELECTRO DENTAL MANUFACTURING CO., Philadelphia, Pa.—Charles Pinches and T. E. Price.

THE L. D. CAULK CO., Milford, Dela.—Dr. G. Layton Grier and Fred H. Field.

AMERICAN X-RAY EQUIPMENT CO., Dental X-Ray Outfits, New York, N. Y.—B. L. Spitzer.

THE OHIO CHEMICAL AND MANUFACTURING CO., Cleveland, Ohio—Miss Eva B. Fisher.

THE DENTINOL AND PYORRHOCIDE CO., INC., New York, N. Y.—W. F. Spies, D. D. S., and Mr. Conley.

THE KOLYNOS CO., New Haven, Conn.—S. W. Hodgdon.

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JOHN HOOD CO., Dental Supplies, Boston, Mass.—Dr. H. M. Lisle and Alex. R. Keltie.

KING'S SPECIALTY CO., Dental Medicines and Specialties, Fort Wayne, Ind.—Dr. J. A. Williams and J. C. Link.

STRATFORD-COOKSON CO., Philadelphia, Pa.—W. K. Cookson and Dr. S. R. Harrison.

MORGAN, HASTINGS & CO., Philadelphia, Pa.—Dr. O. A. Glidden and J. V. Hastings, Jr.

THE SHELTON ELECTRIC CO., Shelton Portable Dental Engine, Lick Bldg., San Francisco—E. T. Cunningham.

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THE RANSOM & RANDOLPH CO., Toledo, Ohio—D. W. Rydman and F. G. Crandell.

THE DENTISTS' SUPPLY CO., New York, N. Y.—Chas. E. Ward and Dr. H. Austin Palmer.

RITTER DENTAL MANUFACTURING CO., Rochester, N. Y.—R. C. Shumway and J. L. Brewster, Jr.

PIEPER DENTAL MANUFACTURING CO., San Jose, Cal.—B. Loveall and Merwin Massol.

THE TETER MANUFACTURING CO., Cleveland, Ohio—H. W. Bell.

CLEVELAND DENTAL MANUFACTURING CO., Cleveland, Ohio—M. F. Babcock and E. S. Ennis.

DETROIT DENTAL MANUFACTURING CO., Manufacturers of Dental Specialties, Detroit, Mich.—Dr. George H. Nottage.

COLUMBUS DENTAL MANUFACTURING CO., Columbus, Ohio—Dr. J. H. Moyer and Dr. J. H. Harper.

LEE S. SMITH & SON CO., Dental Supplies, Pittsburg, Pa.—W. Linford Smith.

BRISTOL-MYERS CO., Brooklyn, N. Y.—George G. Harwood.

HORLICK'S MALTED MILK CO., Racine, Wis.—Arthur Lee Bailhache.

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JAS. W. EDWARDS CO., San Francisco, Cal.—C. P. Sheehy and W. P. Heany.

J. M. NEY CO., Hartford, Conn.—Dr. A. W. Woodman and James R. Shamper.

THE BELL MANUFACTURING CO., Los Angeles, Cal.

MONARCH ELECTRICAL MANUFACTURING CO., Willoughby, Ohio.

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J. W. IVORY, Philadelphia, Pa.

LENNOX CHEMICAL CO., Cleveland, Ohio.

WEBER DENTAL MANUFACTURING CO., Canton, Ohio.

STEWART DENTAL MANUFACTURING CO., Pittsburg, Pa.

S. S. WHITE DENTAL MANUFACTURING CO., Philadelphia, Pa.

CALIFORNIA DENTAL SUPPLY CO., Los Angeles, Cal.

CONSOLIDATED DENTAL MANUFACTURING CO., New York, N. Y.

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VULCAN COIL CO., Los Angeles, Cal.

TRAUN RUBBER CO., New York, N. Y.

R. E. L. MILLER, Front Royal, Va.

H. & A. WEISSFELD MANUFACTURING CO., Philadelphia, Pa.

So when a raging fever burns,
We shift from side to side by turns;
And 'tis a poor relief we gain,
To change the place but keep the pain.

—WATTS.

Colgate's Ribbon Dental Cream

What It Does

It cleans teeth. Its chalk base has body enough for thorough cleansing, and for polishing the teeth to natural whiteness. It pleases the user by its delicious flavor—promoting regular use.



And what it does *not* do

It does not scratch or cut. The chalk we use is of our own manufacture, rigidly tested chemically and microscopically. No commercial chalk that we could purchase was free from insoluble and crystalline matter.

No absurd medicinal claims are made. Its slight alkaline reaction and its mild antiseptics are as close as a dentifrice should come to medication. Where a medicament is necessary, treatment ought to be strictly a matter of professional direction.

For those of the profession who prefer a dentifrice in powder form—Colgate's Antiseptic Dental Powder is equally to be commended. Rince Bouche is a most refreshing mouth wash.

Our booklet, "Architects of American Dentistry," is of interest to both the profession and the public. It should be on your reception room table for patients to read. A complimentary copy may be obtained at the Colgate Booth or on request to

COLGATE & COMPANY, 199 Fulton St., New York City
Established 1806



Here is both a natural and an abnormal growth. The one in the middle distance shows a buttress at once fine and strong. This tree probably protected itself, after the fire which burned out its center, by an excessive expansion of its root system.

The Teter Gas-Oxygen Apparatus

The Teter regulated-pressure apparatus is the invention of an anesthetist who has devoted all his life to the developing of this form of anesthetic.



Regulators are built in the head of the apparatus, which reduce the high pressures of the gases and permit them to pass to the patient in a gentle, even, steady flow at all times.

The controlling valves are so arranged that an increased quantity of one gas may be given without interfering with the quantity flow of the other.

By heating the gases with our vapor warmer (either alcohol or electric), much less gas is needed. Warm gases always produce a deeper and more tranquil anesthesia and at the same time eliminate all the irritating effects which usually follow the use of cold gases.

In ANALGESIC work no assistant is necessary, because the apparatus runs as it is set.

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CAVITY PREPARATION FOR AMALGAM, the use of matrices, condensing and carving amalgam, and other features of the Crandall system of amalgam restoration will be demonstrated at our space at the Panama Pacific Dental Congress by Dr. G. T. Fenker. Crandall's Scientifically Tested Non-Zinc Alloy, Crandall Mortar and Pestle, Alloy Balance, Matrix Metal, and Matrix Bands will be shown in connection with this demonstration.

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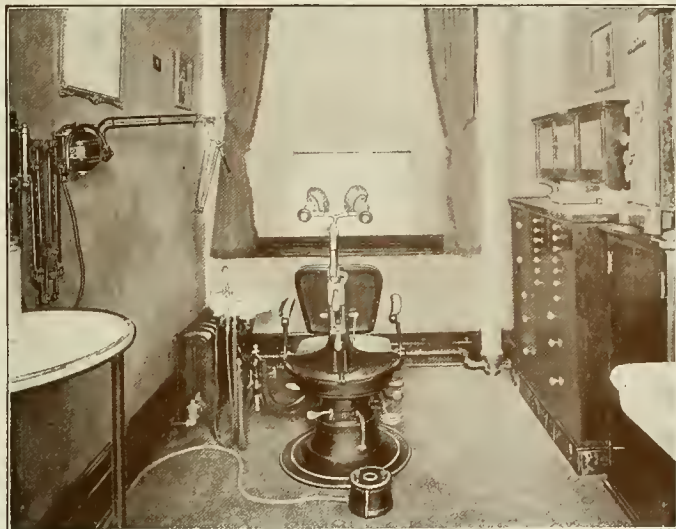
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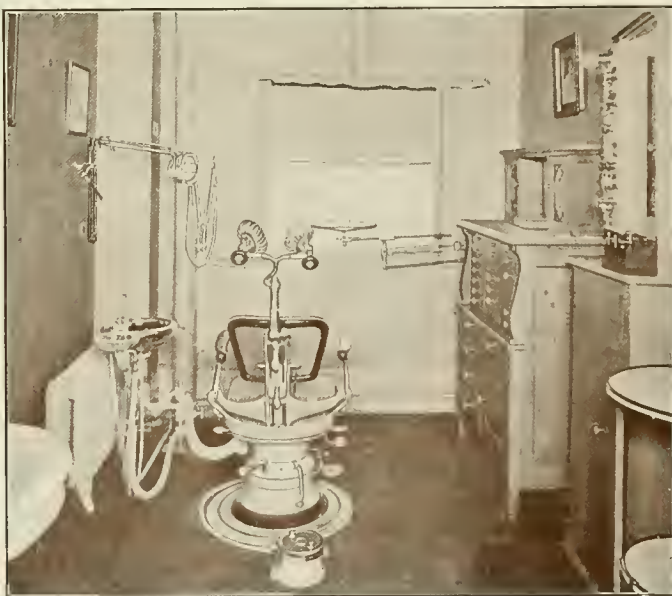
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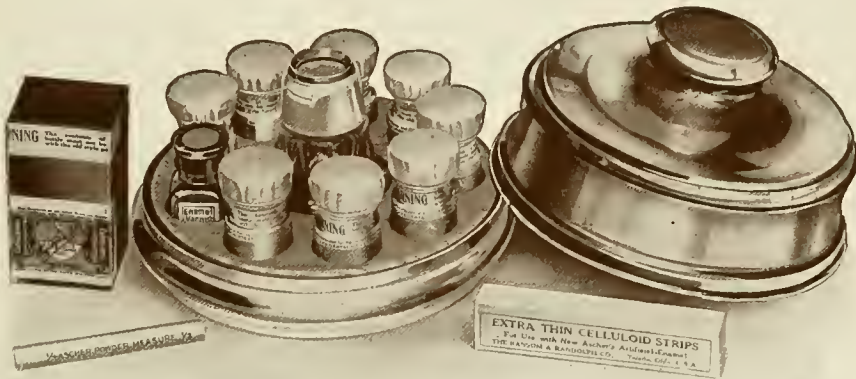
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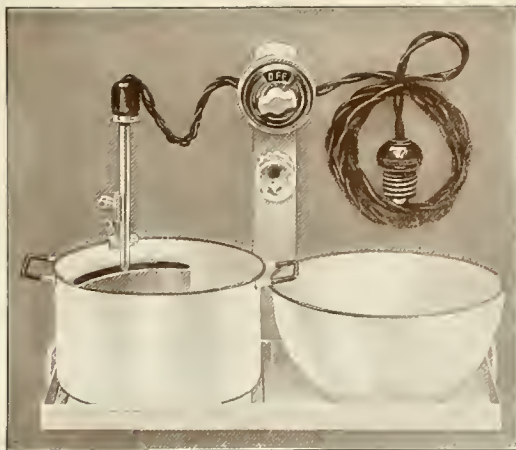
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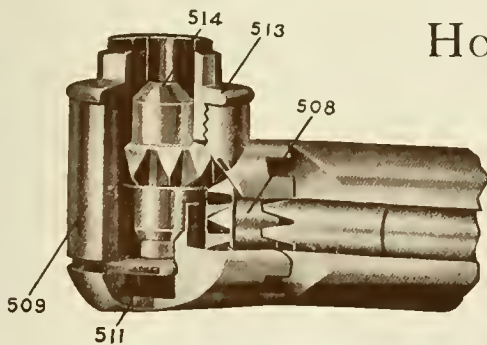
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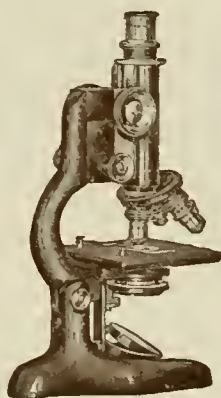
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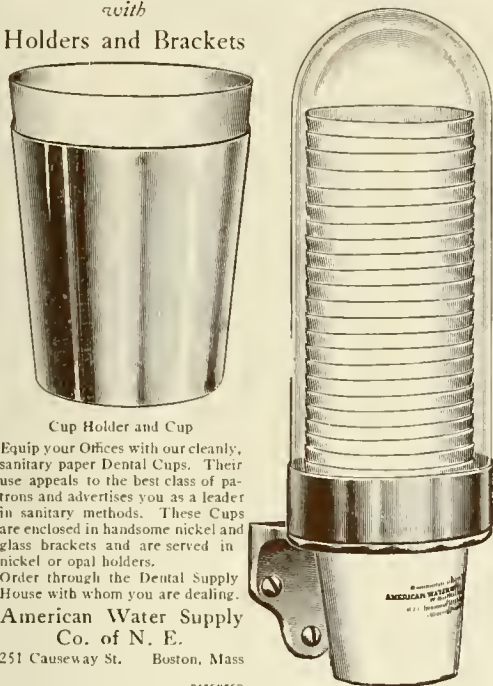
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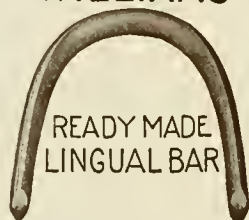


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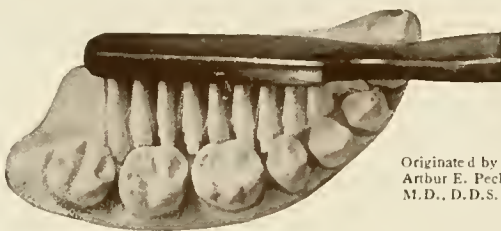
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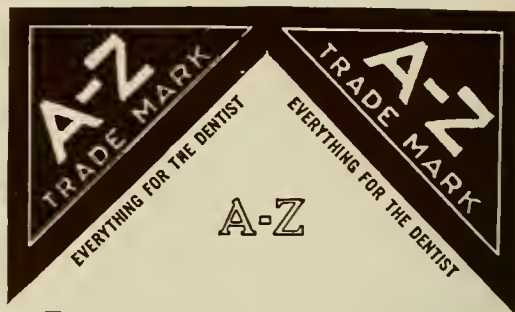
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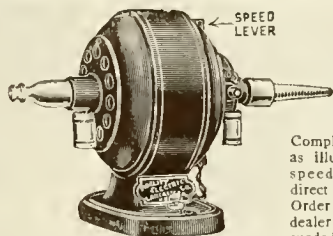
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